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SOVIET TACTICAL DOCTRINE FOR URBAN WARFARE

John C. Scharfen, et al

Stanford Research Institute
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December 1975

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By: **JOHN C. SCHARFEN**
MICHAEL J. DEANE

Prepared for:

**DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
1400 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22209**

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ARPA Order No. 2520

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FORWORD

This is a Strategic Studies Center, Stanford Research Institute Report of study results on Soviet Tactical Doctrine for Urban Warfare.

The overall study, which was conducted in two parts, was made under the general supervision of Richard B. Foster, Director of the Strategic Studies Center, and M. Mark Earle, Jr., Senior Economist and Assistant Director. This report covers the second, analytical portion of the effort. Initially the project was undertaken by Mr. James T. Reitz, Senior Soviet Area Specialist. Subsequently the project leadership was assumed by Mr. John C. Scharfen, Senior Operations Analyst, and was researched/authored by the interdisciplinary team of Mr. Scharfen and Dr. Michael J. Deane, a Soviet Area Specialist. Valuable assistance was provided by Mr. Gerald Sullivan and LTC Ray M. Franklin, USMC, of the Advanced Research Projects Agency, Lt. Gen. Julian J. Ewell, USA (Ret.), (Consultant), Mr. George Schecter (author of "Advanced Firepower Concepts for Military Operations in Built-Up Areas," a reference source document), and Gail Patelcuis, Research Assistant.

Richard B. Foster
Director
Strategic Studies Center

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PREFACE

In 1700, Charles XII of Sweden, with a highly disciplined army of 8,500, thoroughly routed a numerically superior but tactically primitive Russian army of 45,000, gunning down the fleeing Russians like "wild geese."¹ Nine years later, the erratic Charles, allied with the Cossack hetman, Mezeppa, led an army of about 24,000 against the fortified town of Poltava.²

Tsar Peter marched to relieve the garrison with a refurbished, well-trained army of 50,000 to 60,000 men equipped with 120 artillery pieces.³ Both leaders foresaw the significance of the battle: that it would be decisive, and that it would determine not only the outcome of Charles' campaign but the long-term future of their states as well.⁴

The battle, lasting several days, was fought courageously on both sides. The Russian generals had innovated a new tactic of employing well-trained, highly selective outposts in front of a main line of resistance. The Swedes exhausted themselves against the Russian defenses.⁵ In an attempt to outflank the defenders the left wing of the Swedish maneuver elements were encircled by the Russians. Peter's infantry and cavalry, supported

¹ Richard Pipes (quoting Charles XII), Russia Under the Old Regime, p. 120 (Charles Scribner's Sons, New York, 1974).

² Charles had originally left Saxony with 43,000 well-disciplined, well-equipped troops. The campaign into the Ukraine seriously depleted his forces as Peter laid waste the area and as Mezeppa failed to produce the Cossack support which Charles hoped to secure.

³ Lynn Montross, War Through the Ages, p. 372 (Harper and Brothers, New York, 3rd Edition, 1960).

⁴ Sir Edward S. Creasy, The Fifteen Decisive Battles of the World, p. 298 (J. M. Dent and Sons Ltd., New York, 1851).

⁵ Montross, p. 372.

by their vastly superior artillery, routed the Swedes and their allies driving them back into a confluence of rivers where the wounded, litter-borne Charles, with only a few hundred remaining troops, escaped into Turkey. Peter wrote of the significance of his victory: "Now by God's help, are the foundations of Petersburg securely laid for all time."¹

This battle for a fortified town proved to be a turning point in Russian history. Poltava marked the emergence of Russia as the dominant power of Northern Europe:

Few battles have had such far-reaching results, for on that June day in 1709 a new European war power came into being as an old one declined.²

It seems prophetic that this watershed in Russian history should occur in the battle for a fortified city, for the history which follows is punctuated with epic events of equally historic defenses at Sebastopol, Stalingrad and Leningrad and the capture of Berlin. Because of these historical precedents and faced with the growing urbanization of Central Europe, the Soviet soldier has been conditioned to take urban warfare seriously. This work is dedicated to the conviction that NATO allies, to successfully defend in Europe, must understand the Soviet tactics for fighting for and within cities.

¹ J.F.C. Fuller, Decisive Battles: Their Influence Upon History and Civilization, p. 425 (Charles Scribner's Sons, New York, 1940).

² Montross, p. 372.

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SUMMARY

A. Background

The overall objective of this study was to conduct an extensive review of the Soviet open literature and, consequentially, to report on Soviet tactical doctrine and training for urban warfare.

Urban warfare is defined, for this purpose, as combat operations by and against regular military forces in cities. The definition includes both nuclear and nonnuclear combat. It includes the types of combat referred to in U.S. military publications as "combat in built-up areas," "city fighting," "street fighting" and "house-to-house fighting."¹ The definition focuses upon the city rather than the town or village which implies multistoried structures, paved thoroughfares, modern communications facilities, underground passages, factories, etc. The definition does not include terrorist and guerrilla operations as principal considerations.

B. Approach

The study is concentrated upon Soviet tactical doctrine and training although there are references to strategic considerations for background and to U.S. doctrine largely for the purposes of comparison. Because the study is oriented toward the Soviet approach to urban warfare it also focuses upon potential combat in Central Europe, a principal area of concern for both the NATO and Pact nations.

¹ For example, see Department of the Army Field Manual, "Combat in Fortified and Built-Up Areas," FM 31-50 (March 1964).

C. The Significance of Cities

The Central Region of Europe has long been the focus of concern for U.S. planners for it constitutes the frontier of the NATO-Warsaw Pact confrontation and has been considered the most critical area for defense against potential Pact aggression. It is here in the Central Region of Europe that there is the greatest potential for major combat action for and in cities.¹

Most popular scenarios² of a Warsaw Pact-NATO war portray a blitzkrieg attack by the Soviets across the Northern European plains, the classic East-West invasion route. Until recently, Northern Germany was principally rural with a relatively low population density. In 1972 the Federal Republic of Germany (FRG) had a population of 59.6 million in an area of 95,727 square miles for a density-per-square-mile figure of 620.8. The FRG population density is 10 times that of the United States and ranks second only to Japan in this respect among the 26 most populous countries in the world. The annual increase in population in the FRG over the 1963-70 period was 1.0 percent, a relatively small growth rate but still larger than that of France, Italy or the United Kingdom. Given a straight line population increase of one percent to 1995, and all other variables remaining constant, the population density of West Germany would be 783.5 persons per square mile, which

¹ For a detailed terrain analysis of Central Europe which gives special attention to build-up areas and their impact on mobility see Terrain Analysis Center, U.S. Army Engineer Topographic Laboratories, Phase I Study, Built-Up Areas and Structured Landscapes, FRG, The Strategic View (June 1975).

² For example, the Martin-Marietta Corporation has developed the "Barbarossa" scenario to demonstrate a Soviet blitzkrieg assault against Central Europe.

exceeds the contemporary population density of Japan. The bulk of the FRG population is urban and is becoming more so. About 20 percent of the populace currently live in the 11 largest cities of the state, and three of the cities have populations of more than 1 million.¹

Major General Stanier, Commanding General of the British 1st Division of the British Army of the Rhine (which will have a lion's share of the responsibility for defending the North German plains against a Warsaw Pact blitzkrieg attack), has provided an excellent analysis of the problem cities can pose to the military tactician and strategist.

It is an easy misconception to think of the North German Plain as a vast billiard table of agricultural land, intersected here and there by great rivers and a certain amount of forest land. That was indeed how it looked at the end of the last war. Today, however, things are changing fast. There can be very few countries in the world where industry and housing is developing so quickly. The great cities of Hamburg, Hanover, Bremen, Braunschweig, Kassel and Göttingen, to name but a few, are growing enormously all the time. It has been estimated that during the 1980s many of these great urbanisations are in fact going to link up with each other, giving the strategist a totally different problem to face, let alone the tactician.²

¹ The foregoing passage derived from John C. Scharfen, "Defense Planning Guidelines," Appendix A to Ronald C. Wakeford and William C. Perry, "Defense RDT&E Planning and Strategy Parameters: Methodological Consideration," SSC-TN-2358-1, SRI/Strategic Studies Center, p. 134 (December 1974).

² Major General J. W. Stanier, M.B.E., remarks during the conduct of a seminar held at the Royal United Services Institute for Defence Studies on 26 March 1975, "A Conventional Strategy for the Central Front in NATO" as reported in USAF Current News Special Edition, No. 32, p. 13 (26 August 1975).

Stanier points out the problems of modern cities in war without electricity required for hospitals, refrigeration, transportation, communications, sewage, water and other essential services. He describes refugees jamming thoroughfares not with carts and wagons but with Opels, Mercedes and Porsches. He asks, but does not attempt to answer the question:

What will the attacker do about the cities? Will he try to by-pass them in order to speed up his arrival at his final objectives, whatever they may be, or will he use their streets as a safe concentration area for his reserve forces where he can be sure that no Allied nuclear weapons will be directed? This is a very difficult problem, rapidly coming home to roost.¹

D. Conclusions

Based on this research and analysis of Soviet literature, the following conclusions are offered concerning Soviet tactical doctrine for urban warfare.

1. General considerations.

- Fighting in cities is neither a preferred tactic nor strategy for the Soviet armed forces. Soviet tactical doctrine, in the broadest sense, provides that if possible, the attack or defense of cities is to be avoided in warfare.
- The Soviets recognize that the growth of the urban population in the cities of Europe and the consequent expansion of built-up areas may make urban warfare an unavoidable contingency in a NATO-Warsaw Pact conflict and they therefore afford it high priority.
- The capture and defense of cities have been particularly significant in Russian history from the battles of Poltava to Stalingrad, Berlin, and Prague.
- The Soviet soldier has proven to be effective, resourceful, tenacious and innovative in urban operations from the battles of World War II to Budapest, Berlin and Prague in the post-war era.

¹ Major General J. W. Stanier, p. 13.

- If a city cannot be bypassed, the preferred method of attack is either directly "from the march" or following an encirclement of the city.
- In the attack "from the march" great emphasis is given to speed and to taking the city by storm, rapidly bypassing and isolating pockets of enemy resistance rather than a block-by-block, section-by-section, methodical advance.
- If an attack "from the march" should fail to seize a city quickly, the most important objectives are seized and the city is blockaded and taken under siege.
- Urban warfare may be conducted with or without the employment of nuclear or chemical weapons although the Soviets emphasize the integrity, flexibility and duality of tactical concepts and that future wars will entail nuclear, chemical and conventional operations.
- From the materials reviewed in this study, Soviet treatment of employment of nuclear weapons in urban warfare is judged to be superficial and in a one-dimensional view of a single Soviet attack rather than a multiple exchange of weapons between adversaries.

2. Soviet urban tactics emphasize:

- Small unit tactics
- Task organization for combat
- Uniqueness of each urban combat situation
- Tank-infantry team cooperation
- Antitank operations to include the destruction of supporting infantry
- Direct-lay fire of artillery
- Wall breaching by direct fire weapons and engineer personnel
- The role of the sapper
- The top-down assault of a building where feasible
- Isolation of objectives (buildings/strongpoints) in the attack
- Employment of automatic individual arms and grenades

- The use of smoke and darkness to conceal movement
 - Continuity of operations through the full 24-hour daily cycle
 - Realistic training in urban area mockups with as much realism as possible
 - Thorough motivation and psychological preparation for city fighting
 - The rapid crossing of water obstacles
3. Relatively little emphasis was found in this research on Soviet concern for or interest in:
- The difficulties of operating in an urban nuclear environment (mass casualty evacuations, pestilence, extensive contamination, blast-effects of rubble, etc.)
 - Employment of fixed wing air support to include precision guided weaponry
 - Remotely piloted vehicles
 - Use of the helicopter for attack, communication or logistic support
 - Shoulder fired antiaircraft missiles
 - Employment of unattended ground sensors
 - Employment of off route mines.
4. There appear to be more similarities than differences between the U.S. and USSR approaches to and experience in urban warfare. The more explicit differences are:
- The Soviets appear to place greater emphasis upon the use of nuclear weapons in the city
 - The Soviets appear to have less concern for the implications of exposing a flank to a bypassed city
 - The Soviets appear to give less attention to the employment of snipers than is found in U.S. tactical manuals
 - The Soviets appear to give more attention to the use of armor and artillery in the reduction of urban defenses

- The city has greater historical significance relative to the Soviet military with a strong identification with epic battles such as Poltava, Stalingrad, Leningrad and Berlin
- While past Soviet experiences in urban warfare have been quite dramatic, recent experience is limited to the Berlin, Budapest and Prague operations while the United States forces have engaged in active operations in Seoul, Hue, Santo Domingo and Kontum
- The Soviets appear to give more emphasis to the use of chemical munitions.¹

E. Major Items to Note

It is unusual when one finds an article in a Western military journal on the subject of urban warfare. One of the objectives in initiating this study effort was to determine if the Soviet literature reflected equal, greater or less interest in this facet of combat. Without embarking upon a detailed net assessment between Western and Soviet literature, it soon became obvious from this review that the Soviets devoted far more space in their publications to urban warfare than did Western writers. Our literature survey focused upon the period 1967-74 although the review uncovered relevant materials published as far back as the World War II era. There were 365 Russian and English language documents which were found to have particular value for this effort. Of the 365 items used in the survey, 60 or more provided sufficient detail on Soviet tactics to formulate a fairly comprehensive view of their approach to urban combat. Of the 365 sources, 220 were in the original Russian while 145 had already been translated into English. About 275 of the sources were oriented to offensive urban war while 190 focused upon defensive actions. About 245 concerned

¹ This statement does accurately reflect the research of this study. However, the number of references in Soviet literature to chemical warfare in an urban environment is much less than what one finds in more general literature on strategy and tactics.

historical events while 95 dealt with more contemporary problems. Some of the material dealt with both.¹ The Soviet literature collected for this search covered a broad spectrum of detail from strategic to tactical concepts at the army level to the tactics of the individual Soviet rifleman, engineer, artilleryman, et. al.

If there appears to be small concern for the ramifications of urban warfare in Western writings it can hardly be laid to a lack of attention in popular Soviet military journals. There are sufficient research materials available in open and classified sources to develop detailed estimates and reports on how the Soviets would employ their units in combat in cities today and in the near future.² In Chapter IV of this study is a preliminary effort on an approach to generate such reports. It will be noted that Chapter IV provides brief analyses and pertinent citations of Soviet writings on urban warfare categorized by separate arms of the service. This material assembled in the study archives are sufficiently rich in substantive detail to warrant further study. It would be particularly valuable if this encyclopaedic resource was further developed to generate separate tactical handbooks on how Soviet infantrymen, artillerymen, engineers, etc., plan to fight in cities. Such a method of presentation should be instructive for U.S. personnel, not only from the standpoint of acquiring knowledge of a potential adversary but for comparing and assessing U.S. doctrine and techniques as well.

One measure of Soviet concern for urban warfare can be found in the rather extensive training facilities which are devoted to preparing Soviet forces for fighting in cities. Chapter III is devoted to a description of these facilities. Eight training fields are described, each field

¹ A more detailed report on this literature search may be found in the publication: James T. Reitz, "A Review of Soviet Tactical Literature," SSC-TN-2625-4, Part I, p. 14, SRI/Strategic Studies Center (October 1974) CONFIDENTIAL.

² Ibid.

meticulously prepared to replicate some condition or conditions which may be found in city warfare. One of the fields is two kilometers deep, has multistoried structures and underground shelters. One source¹ describes in some detail the requisites of an ideal structure within an urban combat training area which would represent in great detail the varied conditions an assault force would meet in a built-up area. According to the author, the structure should include, in its several stories, one floor with several rooms emptying into a corridor, the building should have a basement, there should be a stone fence surrounding the structure and there should be a second building in the near proximity.

Another training area, in a military engineer school, is divided into three special sectors. One is devoted to reconnaissance and obstacle breaching, another to contaminated areas and mined obstacles, and the third to populated areas.

The single best indicator as to whether or not a national military force takes urban warfare seriously is the degree to which they appear willing to expend assets of time and material on training and training facilities. This survey would indicate that the Soviet military forces do indeed devote considerable resources to such endeavors. There is substantial evidence to be found in Soviet writings that the Soviets are concerned with urban warfare. The evidence is confirmed and reinforced by the attention they devote to training in urban tactics.

¹ Colonel A. Romanenko, "Combat of a Motorized-Rifle Platoon in a City," Voyenny Vestnik, No. 12, pp. 40-44 (December 1969).

I INTRODUCTION

A. Urban Growth

The increase in urbanization in the USSR itself, and more gradual increases in already heavily urbanized Western Europe since World War II, are important factors which keep urban conflict very much in the minds of Soviet military writers (and probably military planners). According to the 1972 edition of the National Economy (Narodnoye Khozyaistvo), Statistika Press, Moscow, 1972, the Soviet urban population in 1940 was just over 63 million, forming about a third of the population. By 1972, this figure had climbed to nearly 144 million or nearly 60 percent of the population.

Soviet writers are equally aware of urbanization trends in other areas of the world as indicated by Table I translated below from a recent Russian-language publication.

Pravda reports, "In the Russian Federation alone, the number of cities with populations of more than 200,000 doubled within 25 years."¹ Table 2 demonstrates the Soviet growth from 1959 to 1974. Soviet literature indicates that during this 15-year period the Soviet Union's urban population throughout the country increased by 50 percent. The increase was not primarily due to favorable birth and death ratios but, rather, to migration from rural areas. The trends, of course, are not irreversible. The USSR is making a concentrated effort to limit the growth of cities. Nevertheless, the increased concentration of population in cities, which is visible in 1975, will probably continue even though the rate may be slowed.²

¹ A. Libkind, Pravda, p. 3 (5 August 1975).

² Victor Perevedentsev in Literaturnaya Gazeta (30 April 1975).

Table 1
DYNAMICS OF CITY POPULATION BY MAIN REGIONS
OF THE WORLD FROM 1920-2000¹

	<u>1920</u>		<u>1940</u>		<u>1960</u>		<u>1980</u>		<u>2000</u>	
	(Column Omitted)		In Millions	Percent	In Millions	Percent	In Millions	Percent	In Millions	Percent
USSR			60	32	105	49	190	18	300	85
Europe (- USSR)			200	53	245	58	310	65	375	71
East Asia			85	13	180	23	325	31	520	40
Africa			20	11	50	18	350	25	750	35
North America (USA & Canada)			85	59	140	70	215	81	310	87
Latin America			40	31	105	49	245	60	510	80
Australia & Oceania			5	53	10	64	20	75	25	80
Entire World			570	25	990	33	1780	46	3090	51

NOTE: (U) From 1920-1960 estimated; from 1980-2000 projected. These figures were determined by the Commission on Population of the Economic and Social Council of the UN.

¹ T. Ts. Urianis, ed., Population of the Countries of the World (Reference Book), p. 419 (Statistic Publishing House, Moscow, 1974).

Table 2
BIG CITY GROWTH IN THE USSR

	<u>Population</u> <u>(In Thousands)</u>		<u>Increase Over the</u> <u>15-Year Period</u>	<u>Percent</u>
	<u>1959</u>	<u>1974</u>	<u>(In Thousands)</u>	
Moscow	6,044	7,528	1,484	25
Leningrad	3,321	4,243	922	28
Kiev	1,110	1,887	777	70
Tashkent	927	1,552	625	67
Baku	968	1,359	391	40
Khar'kov	953	1,330	377	40
Gor'kiy	941	1,260	319	34
Novosibirsk	885	1,243	358	41
Kuybyshev	806	1,140	334	41
Sverdlovsk	779	1,122	343	44
Minsk	509	1,095	586	115
Total	17,243	23,759	6,516	38

Source: Perevedentsev in Literaturnaya Gazeta (30 April 1975).

Tables 3 and 4 demonstrate the pattern of big city growth in those areas of Northern and Central Europe of principal concern. Generally, the growth in built-up areas is most striking in the extension of suburbs which is demonstrated in Table 4.

The population densities of the Soviet Union's Warsaw Pact allies are displayed in Table 5. Note that the population density of East Germany at 408 persons per square mile is by far the largest of the Pact partners but falls short of that for West Germany at the 621 mark.

B. Soviet Views

The importance of cities in the overall scheme of warfare has been recognized and frequently commented upon by Soviet military writers. It is pointed out in Soviet literature that in Central Europe (a most likely objective of a Soviet advance) there are numerous large cities. For every 200 to 300 square kilometers of territory, will be found at least one or two cities of 25,000 to 30,000 people, as well as numerous other populated points. In some highly developed economic regions, moreover, these cities will have an area of several thousand square kilometers.¹ Consequently, one Soviet source has asserted that "under contemporary conditions, combat activities in a city will be a frequent phenomenon" and has estimated that "engaging in battle for the seizing of cities will be held every 40 to 60 kilometers."²

¹ Guards General Major L. Kuznetsov, "The Offensive in a City," Voyennyy Vestnik, No. 8, p. 36 (August 1969). See also Colonel A. Sidorchuk, "Combat Actions of Troops in the Seizure of Large Cities," Voyenno-Istoricheskiy Zhurnal, No. 10, p. 20 (October 1971).

² General Major A. K. Shovkolovich, Colonel F. I. Konasov, and Colonel S. I. Tkach, Boevyye deystviya motostrelkovogo batal'ona v gorode (Combat Activity of a Motorized-Rifle Battalion in a City), p. 5 (Moscow: Voenizdat, 1971).

Table 3
BIG CITY GROWTH IN SELECTED NATO COUNTRIES

<u>Country and City</u>	<u>Population¹</u> <u>(In Thousands)</u>		<u>Change Over The</u> <u>15-Year Period</u> <u>(In Thousands)</u>	<u>Percent</u>
	<u>1959</u>	<u>1973</u>		
Belgium				
Brussels	170.4	103.7 ²	-66.7	-39 ⁴
Antwerp	260.7	217.3	-43.4	-17 ⁴
Liege	156.5	142.8	-13.7	- 9
Schaarbeek	118.2	119.0 ³	.8	1
Denmark⁵				
Copenhagen	942.1 ⁶	1299.0 ⁶	356.9	38
Aarhus	118.4	245.6	127.2	107
Odense	110.2	167.8	57.6	52
West Germany				
Aachen	165.0	239.6	74.6	45
Augsburg	204.3	257.0	52.7	26
Bonn	144.3	281.1	136.8	95
Bremen	546.1	589.8	43.7	8
Bremerhaven	137.5	144.5	7.0	5
Darmstadt	133.1	140.9	7.8	6
Duisburg	500.4	441.5	-58.9	-12
Dusseldorf	689.1	637.1	-52.0	- 8
Essen	728.2	682.3	-45.9	- 6
Frankfurt	651.7	667.5	15.8	2
Freiburg	137.6	171.5	33.9	25
Gelsenkirchen	391.1	339.8	-51.3	-13
Hagen	190.0	197.9	7.9	4

¹ Information for this table was calculated from data in the UN Demographic Yearbook for 1962 and 1973 and from the Europa Yearbook for 1961 and 1975 (Europa Publications Ltd., London).

² 1971 estimate for Brussels.

³ 1970 figure for Schaarbeek.

⁴ Increased in overall urban agglomerate (see Table 2).

⁵ 1974 estimate for Denmark cities (Europa Yearbook 1975).

⁶ Includes Frederiksberg and Gentofte (from Europa Yearbook statistics).

<u>Country and City</u>	<u>Population</u> <u>(In Thousands)</u>		<u>Change Over The</u> <u>15-Year Period</u> <u>(In Thousands)</u>	<u>Percent</u>
	<u>1959</u>	<u>1973</u>		
West Germany				
Hamburg	1815.4	1766.2	-49.2	- 3
Hannover	568.0	511.3	-56.7	-10
Karlsruhe	232.8	263.5	30.7	13
Kassel	200.4	213.0	12.6	6
Kiel	268.3	268.8	.5	0
Koln	770.7	840.3	69.6	9
Lubeck	231.5	237.7	6.2	3
Ludwigshafen	158.2	174.3	16.1	10
Mainz	128.2	181.1	52.9	41
Mannheim	302.7	328.4	25.7	8
Mulheim	180.4	191.8	11.4	6
Munich	1047.7	1338.9	291.2	28
Munster	172.7	200.5	27.8	16
Nuremburg	444.0	515.0	71.0	16
Oldenburg	120.8	133.3	12.5	10
Osnabruck	133.6	164.0	30.4	23
Regensburg	123.0	133.5	10.5	9
Remscheid	123.0	135.5	12.5	10
Salzgitter	105.9	117.6	11.7	11
Solingen	167.2	176.7	9.5	6
Stuttgart	626.1	630.4	4.3	1
Wilhelmshaven	99.6	104.3	4.7	5
Wuppertal	418.5	413.2	-5.3	- 1
Luxembourg	72.6	78.0	5.4	- 7
Netherlands¹				
Amsterdam	871.0	799.8	-71.2	- 8 ²
Apeldoorn	102.0	128.3	26.3	26
Arnhime	123.7	130.5	6.8	5
Breda	106.4	121.8	15.4	14
Eindhoven	164.6	191.5	26.9	16
Enschede	122.9	143.2	20.3	17
Groningen	143.9	170.9	27.0	19
Haarlem	169.1	171.4	2.3	1
Mijmegen	128.3	149.7	21.4	17
Rotterdam	731.8	662.0	-69.8	-10 ²
The Hague	606.3	517.9	-88.4	-15
Tilberg	135.8	154.3	18.5	14
Utrecht	252.9	272.2	19.3	8

¹ Netherlands cities are 1972 estimates from UN Demographic Yearbook 1973.

² Increased in overall urban agglomerate (see Table 2).

Table 4
URBAN AGGLOMERATE GROWTH IN SELECTED NATO COUNTRIES¹

<u>Country and City</u>	<u>Population²</u> <u>(In Thousands)</u>		<u>Change Over the 10-</u> <u>to 12-Year Period</u> <u>(In Thousands)</u>	<u>Percent</u>
	1961 Estimate	1971 Estimate		
Belgium				
Antwerp	643.5	672.7	29.2	5
Brussels	1019.5	1074.7	55.2	5
Liege	448.2	440.4	-7.8	- 2
Denmark	1960 Estimate	1972 Estimate		
Copenhagen	1262.2	1362.2	100.0	8
Aarhus	177.2	187.3 ⁴	10.1	6 ³
Odense	129.8	133.0 ⁴	3.2	2 ³
Netherlands	1959 Estimate	1972 Estimate		
Amsterdam	917.5	1023.7	106.2	12
Groningen	157.0	206.0	49.0	31
Haarlem	215.0	238.6	23.6	11
The Hague	728.1	697.9	-30.2	- 4
Rotterdam	811.1	1059.6	248.5	31

¹ Source does not provide agglomerate data for the FRG.

² Information calculated from data in United Nations Demographic Yearbook of 1962 and 1973 (published in 1962 and 1974 respectively, New York).

³ 5-year period.

⁴ 1965 figure for Aarhus and Odense.

Table 5
EAST EUROPEAN POPULATION DENSITY ESTIMATES

	<u>1973 Population</u> <u>(Millions of People)</u>	<u>1973 Area</u> <u>(Thousands of</u> <u>Sq. Miles)</u>	<u>1973 Density</u> <u>(Persons Per Sq. Mile)</u>
East Germany	17.0	41.6	408
Czechoslovakia	14.6	49.4	295
Hungary	10.4	35.9	290
Poland	33.4	120.6	277
Romania	20.9	91.7	228
Bulgaria	<u>8.6</u>	<u>42.8</u>	<u>201</u>
Average	17.5	63.6	283

Sources: Population estimates from Central Intelligence Agency; areas from Associated Press Almanac (1974).

Moreover, from the enormous number of articles written by the Soviets since 1945 on the battles waged in and around major cities, it is obvious that they place considerable emphasis on the psychological value in winning or losing the battle for a large city. It is stressed that the successful defense of a city can have significant consequences. As one source has succinctly recalled from the experience of World War II:

Skillful defense of the garrisons of Brest, Litypaya, Mogilev, Sevastopol, Odessa and other important populated points restrained and paralyzed considerable forces of the enemy. In political respects, the successful defense of the cities inspired confidence in victory, strengthened the moral spirit of the Soviet people at the front and in the rear. In military respects, it diverted the enormous forces of the enemy and delayed his general offensive.¹

C. Strategic Views

Modern strategists, Russian or Western, must view cities from two distinct perspectives--one offensive, one defensive. For the commander of forces on the offense operating in enemy territory, the city can be viewed, inter alia, as:

- A hostage to an attacker's threat of destruction or widespread damage
- An obstacle to advance, attack and maneuver
- A fortress for the defender
- A base for sorties against the attacker's exposed flanks
- A vital center of communications either essential to or which would facilitate the attack

¹ "Combat Activities in a City," Starshina Serzhant, No. 6, p. 1 (June 1972). A further analysis of the importance of cities is provided in Chapter II, paragraph D.

- A source of resources which are either coveted by the attacker or which should be denied to the defender
- A symbol of national will the retention of which is critical to continuing resistance
- The locus of political power
- A problem for defending and governing if occupied.

For the commander of defensive forces operating against a hostile force which has crossed national borders, the city can be viewed, inter alia, as:

- Of such cultural, historic value that it must be spared destruction and consequently declared "open" as was Paris in World War II.
- A trap in which to delay, impede or ~~disrupt~~ the attacking army and air forces
- An essential communications center without which continued resistance is infeasible
- The stadt-geist of the country which requires defense at all costs
- A potential locus of disease, pestilence, mass casualties and hysteria on a large scale
- Essential for economic survival
- A source of political stability or instability
- A strongpoint more easily defended than a position in open terrain.

This brief and incomplete citation of opposing perceptions of cities demonstrates the complexity of categorizing the significance of urban centers in modern war. Recognizing that there are many variables which influence the role cities play in war, there are, nevertheless, some overall generalizations which can be drawn about their significance for the Soviet Union and the United States:

- Given circumstances of war in Central Europe involving a Warsaw Pact attack against the NATO allies;
 - Warsaw Pact forces are most likely to maximize speed, maneuver and depth of penetration to the Rhine and Weser Rivers' line and beyond, bypassing urban centers wherever and whenever possible.
 - As a strategic policy, the Warsaw Pact would not likely destroy the cities of Western Europe for to do so would denigrate the advantages of conquest, reinforce anti-pathies and invite retaliation by stand-off air and missile forces.
 - Notwithstanding the Warsaw Pact preference to avoid combat in cities in a blitzkrieg-style attack, the deeper the penetration, the longer the period of attack and the later the event occurs in this century, the more likely it will be that they will be forced to fight in cities.
 - If Warsaw Pact forces are persistent in bypassing cities in a march to the Rhine, their lines of communication could be vulnerable to those NATO forces left within or shielded by cities.
 - Once Warsaw Pact forces are committed to city fighting, the effectiveness of massed armor is reduced and the overall advantage accrues to the defender. Assuming the defender has the will to persevere, the tempo of war goes from the blitzkrieg measured in advances of hundreds of miles per phase to street fighting measured in blocks per phase.
- Given circumstances of war in areas other than Central Europe where the Soviet Union is likely to commit forces, the potential for urban operations is dependent upon the variables of where, when, objectives, etc.
 - However, the major Soviet commitments to military operations post-1945 are heavily weighted to urban areas to include Berlin (1953), Budapest (1956), and Prague (1968).
 - All such operations have the common characteristic that overpowering force was used to control and influence the central apparatus of state power or the populace in capital cities.
 - As the Soviets extend their influence out from their immediate borders and increase their capabilities to project force into forward areas, they may increasingly find that such operations as Beirut (1958), Santo Domingo (1965), Belfast (1972 and later) and perhaps, even Hue (1968) are characteristic of great power operations in areas distant from its national base.

D. The Nature of Urban Warfare

Throughout the areas which have reasonable potential for Soviet combat operations there is a great diversity among cities. They range from ancient walled cities dating back to the Middle Ages to completely modern cities reconstructed from the ruins of World War II. In size, they range from the relatively small cities which are scattered across the North of Europe to the half million plus of Bremen, to the 3.2 million of the East-West Berlin complex. Some of the smaller cities are still surrounded by rural areas with open approaches, while the larger cities tend to support suburban agglomerates with the approaches restricted by built-up areas. The nature of urban warfare will obviously vary with conditions of population density, the size, height and density of buildings, subterranean communications systems, architectural style, whether or not there was time or disposition to evacuate the city, the plans of attack and defense, the size and organization of combat forces, climate and a host of other variables which make it difficult to make categorical statements on the nature of urban warfare. Nevertheless, there are some fairly consistent lessons to be learned from recent history as there are insights into the future which can be drawn upon to develop a list of some relatively universal characteristics of city fighting.

Generally, combat in cities becomes a series of small-unit actions at the squad, platoon, company and battalion level. Maneuver of these small units become complex and detailed while larger unit movement at the brigade and division level is limited and slow and there are few opportunities for decisive maneuver. There may be exceptions to these generalizations of focusing on smaller units in limited maneuver when the attacker elects to storm a city by pushing armored columns through the streets or delivering troops by air, thus bypassing defensive positions. Extensive destruction of city structures by nuclear or conventional firepower may, on the one hand, significantly reduce the capability of the defenders but the resultant destruction and rubble of such fires may, on the other hand, so impede movement that they prove to be a major obstacle to the attackers.

Armor is very effective in cities but must be employed with care in a manner which capitalizes on its firepower and armor protection while minimizing its vulnerability due to lack of vision, restricted mobility and the very close proximity of undetected enemy forces. Both in offense and defense, direct fire support by tanks has been used to good advantage. Both in offense and defense, there must be close tank-infantry coordination to overcome the close-in vulnerability of the tank. Tank and armored infantry columns are singularly effective in the attack when resistance is light and the streets are relatively clear of obstacles.

Artillery employed within a city is obviously restricted in its flexibility and much greater emphasis must be given to direct lay, short-range fire techniques. Mortars have an increased effectiveness as do flamethrowers which have effective short-range capabilities. Chemical smoke, haze, dust and darkness all may be used to mask movement. Subterranean systems (subways, sewers, etc.), may become major avenues of movement although they are easily blocked or interdicted.

Conventional fixed and rotary wing aircraft close support is generally limited due to the indiscriminate destruction and obstacles they may generate and due to vulnerability to hostile fires from crew-served and new handheld weapons such as the SA-7/Redeye. Remotely piloted air vehicles may reduce the significance of this vulnerability within the next two decades.

Movement from one objective to another or assault upon a position may be limited to well defined approaches unless effective barrier-reducing or wall-breaching systems are used.

The capabilities of the individual soldier and small units may, with effective training and employment, be maximized at the expense of opposing forces to the extent that relatively small units may defeat, deter or impede a substantially larger force.

Where cities still contain noncombatants, distinct advantage may accrue to the side which is less concerned with the safety of the populace.

The details of task organization become much more important at the lower levels of organization than in more open forms of warfare. Infantry squads may be reinforced with flamethrowers, engineers or communicators. Tanks and artillery may be placed in direct support of platoons.

Observation is limited because of buildings, dust and smoke. Cover and concealment are plentiful and there is less need for artificial camouflage. The aberrations of sound bouncing off structures and the lack of long-range visibility and distinctive landmarks have a tendency to disorient and confuse maneuvering forces.

There is a greater requirement for effective communications at the small-unit level. Radio communications may be less reliable due to the interference of buildings. Basic arm and hand signals, flares and wire communications may become the principal means of communication for forces in contact.

Precision guided munitions, command detonated mines, unattended ground sensors, remotely piloted vehicles both air and ground and other current state-of-the-art technological advances may substantially change the nature of urban warfare as it is currently envisioned.

The effects of selective use of small nuclear weapons to include those of enhanced radiation are speculative as are the potential capabilities of chemical munitions. It seems certain however that their use could also change contemporary tacticians' views on fighting in cities.

In summary, the tactics of urban warfare are unique whether viewed from the perspective of the Soviet Union or the United States. There are, however, many principles of control, coordination, techniques of fire,

maneuver, reconnaissance and air operations that are quite similar to more open forms of warfare along with the many divergencies. It is these divergencies and differences which make the study of Soviet tactical doctrine for urban warfare a worthwhile pursuit.

II SOVIET MILITARY TACTICS: AN OVERVIEW

A. Soviet Strategy, Operational Art, and Tactics

As background to this study of Soviet concepts of urban warfare, it seems important to understand that the place of tactics in the field of Soviet military science is somewhat different from that of the U.S. practitioner of the military arts.

In the volume on tactics published in the mid-1960s as part of the authoritative Officer's Library series, it is stated that, as a scientific theory, Soviet military art is divided into three parts: strategy, operational art, and tactics. In the military dictionary, which also is part of the Officer's Library series, strategy is described as "the highest area of military art, representing a system of scientific knowledge on the occurrence and rules of armed struggle."¹ Strategy is concerned with the investigation and elaboration of questions related to the conditions and nature of a future war, the preparation and strategic utilization of the armed forces, the forms and methods of conducting and leading armed struggle, and the comprehensive strategic safeguard of the troops' combat activity.²

Operational art is "a component part of military art" which is engaged in working out the theory and practice of preparing and conducting the joint or independent operations of strategic formations of the armed forces. It is "the combining link between strategy and tactics." Guided

¹ Slovar' osnovnykh voyennykh terminov (Dictionary of Basic Military Terms), p. 220 (Moscow: Voenizdat, 1965).

² Ibid., General Major V. G. Reznichenko, ed., Taktika (Tactics), p. 6 (Moscow: Voenizdat, 1966); and Marshal of the Soviet Union V. D. Sokolovskiy, ed., Voyennaya strategiya (Military Strategy), pp. 16-17 (Moscow: Voenizdat, 1968).

by the requirements of strategy, operational art investigates the nature of contemporary operations, defines the methods of preparing and conducting operations for the achievement of strategic goals, and determines the matters of operational support, troop control, and rear support. Operational art also embodies the initial data for tactics by organizing the preparation and conduct of battle in coordination with the purposes and tasks of operations.¹

Tactics, the principal concern of this study on Soviet urban doctrine, is "the particular area of theory and practice of military art, which studies the objective rules of fighting and works out methods of preparing for and conducting it on land, in the air, and on the sea."² Consequently, as compared to strategy and operational art, tactics "occupies a subordinate position and is designed to work in the interests of operational art and strategy as well as to obtain the aims proposed by operational art."³ Given this role, it is recognized that "the principles of tactics are not eternal and immutable,"⁴ and therefore the dynamic impact of postwar military developments must be fully taken into consideration.

B. Soviet Approach to Tactics

Much attention in Soviet literature is directed to the influence of the postwar "scientific-technological revolution" on military affairs. This influence is particularly felt in such areas as military organization, troop control, and weapons development. Writing on the 57th anniversary of Soviet Armed Forces Day, for example, first deputy Minister of Defense Marshal of the Soviet Union I. I. Yakubovskiy remarked that:

¹ Slovar' osnovnykh voyennykh terminov, p. 150; and Reznichenko, op. cit., p. 6.

² Slovar' osnovnykh voyennykh terminov, p. 224.

³ Gavrillov, op. cit., p. 22.

⁴ Colonel V. Zamorovskiy, "Laws of Battle," Soviet Military Review, No. 3, p. 19 (March 1975).

Three decades have passed since the end of the war. In this time our army and navy have substantially changed. Their mobility, striking strength, and firepower have increased immeasurably. They have advanced to a new stage of development. It is determined by the fact that the combat power of the armed forces in the conditions of a developed socialist society and on the basis of a gigantic growth of the economy, rapid scientific-technical progress, and the further consolidation of the moral-political unity and friendship of the peoples of the USSR is steadfastly continuing to strengthen. The nature of the army and navy has unrecognizably transformed the modern types of arms and combat equipment, which Soviet troops are skillfully wielding.¹

While the strategic missile forces may have been the primary beneficiary of rapid scientific-technical progress attained since World War II, Soviet spokesmen strongly assert that this progress has been responsible for a significant increase in the combat capabilities of the other service branches.² It follows that nuclear strikes will have a tremendous impact in a general war, especially in the initial phase, but will not in themselves be decisive. Tactical armed conflicts will have an important role in any war. As the tactical volume from the Officer's Library stated in the mid-1960s:

Doubtlessly, with the presence of nuclear weapons at the direct disposal of the strategic and operational leadership, their capabilities have evidenced. At the same time, it should be considered that armed struggle has now acquired a different character than before. It has become more complex and covers not only the line of direct contact of troops, but also the entire depth of the theater of troop activity and even the entire territory of the warring sides. Under these conditions,

¹ Krasnaya Zvezda (23 February 1975).

² Marshal of the Soviet Union A. A. Grechko, "V. I. Lenin and the Armed Forces of the Soviet State," Kommunist, No. 3, p. 22 (February 1974). Cf. Marshal of the Soviet Union A. A. Grechko, Vooruzhenniye sily sovetskogo gosudarstva (The Armed Forces of the Soviet State), pp. 95-99 (Moscow: Voenizdat, 1974); and Marshal of the Soviet Union K. S. Moskalenko, Moscow Domestic Service in Russian, 1503 GMT (14 May 1975).

while nuclear strikes inflicted directly by the strategic and operational leadership may decide the most important tasks, they are still but a part of the general tasks of the armed struggle. For total victory, it is necessary to consolidate the results of the nuclear strikes inflicted by the high command, to complete the destruction of the enemy, to seize his territory, and to deprive the enemy of the capability to carry out resistance in any form. The attainment of this objective is inevitably connected with the conduct of intense combat activity.¹

The continuity of Soviet thought on this line was demonstrated several years later in a work on offensive warfare which states:

The mutual employment of nuclear weapons by the sides will give modern combat an absolutely different character in comparison with its former characters. Just as combat became a combat of fire with the broad introduction of fast-firing weapons among the troops, modern combat can be characterized as nuclear combat. Of course, this does not repudiate its combined arms character but only stresses the decisive role of nuclear weapons in battle and the special features of the battle itself which follow therefrom. The actions of the troops on the battlefield are coordinated first of all with the nuclear strikes and are directed toward the exploitation of their results.²

Similarly, stressing the combined-arms nature of a general war, a training manual written in 1972 explained that:

Contemporary war is a combined arms war. Characteristic of it are the use of nuclear weapons and the participation of great numbers of ground troops with this diverse combat equipment, rocket troops, aviation and airborne troops, as well as the increased role of tanks...

¹ Reznichenko, Taktika, p. 11.

² Colonel A. A. Sidorenko, The Offensive (A Soviet View), translated by the United States Air Force, pp. 41-42 (Washington, D.C.: GPO, 1970).

Combined-arms fighting is conducted by the combined effort of all types of troops and special troops.¹

The Soviets take chemical and bacteriological warfare seriously and cite precedents of "American imperialists" employing such weapons. "The Americans used this [bacteriological] weapon in the war against the Korean people (1950-53) and also on the territory of the Chinese Peoples' Republic."² According to the Soviet writers, these precedents should serve as object lessons for Soviet military forces:

All this permits us to consider that troops will be forced to conduct combat actions not only during massive enemy use of nuclear weapons but also during wide use of toxic substances and bacteriological agents.³ We must anticipate that in this war the aggressor will use chemical and bacteriological weapons in combination with nuclear weapons.⁴

In particular in a future war one may expect the employment of chemical and bacteriological weapons the development of which is being given great attention in the Western countries especially the United States.⁵

It is also pointed out by Soviet writers that the characteristics of tactical fighting have undergone fundamental changes since World War II. These changes, say the Soviets, preclude the possibility that a future battle will be fought between two armies drawn up in continuous battle lines stretching over long distances. As one source noted, protracted battles are "definitely a thing of the past," whose place has been taken

¹ General Lieutenant A. I. Odintsov, ed., Uchebnoye posobiye po nachalnoy voyennoy podgotovke (Training Manual for Initial Combat Training), p. 127 (Moscow: DOSAAF Publishing House, 1972).

² Reznichenko, Taktika, p. 30.

³ Ibid, p. 31.

⁴ I. D. Sokolovskiy, Soviet Military Strategy, 3rd Edition, Stanford Research Institute, edited by Harriet Fast Scott, p. 201 (New York, Crane Russak & Co., Inc., 1975).

⁵ Ibid., p. 243.

by highly flexible combat actions.¹ Indeed, the Soviets envision that a future conventional war will be a short campaign marked principally by the following features:

- Mobility and high speeds of combat operations
- Concentration of superior forces only in the decisive place and at the decisive time
- Rapid breakthrough
- Penetration and dispersal into the depth of the opponent's defense
- Bypass and encirclement of enemy strongpoints and populated areas
- Destruction of bypassed points.

One of the most emphatic points made by Soviet tacticians is that priority must be given to quick movement on the battlefield. "Quickness, swiftness, and the decisiveness of the actions of subunits," noted one such writer, "have always been indispensable conditions of the successful outcome of any sort of battle."² Similarly, another high ranking military figure noted that:

Contemporary battle, characterized by high maneuverability and dynamic actions, is as a rule developed in a short time and conducted at a high tempo. So, in order to execute a bold and swift maneuver and deliver a powerful blow into the flank and rear of the enemy a high speed of movement is needed.³

¹ Colonel V. Savkin, "Traits of Modern Combat," Voyennyy Vestnik, No. 3, p. 25 (March 1974).

² General Major of Tank Troops I. Skorodumov, "The Guarantee of Success in Battle is in the Swiftness of Actions," Voyennyy Vestnik, No. 5, p. 11 (May 1973).

³ General Lieutenant M. Ryb'yakov, "Long-Distance March," Voyennyy Vestnik, No. 2 (February 1973).

Well aware that tactical nuclear weapons could annihilate—and thereby cause the early defeat of—an opponent which masses its forces too soon, Soviet writers suggest that troops marching to the attack should be dispersed (1) widely enough to prevent their destruction, but (2) closely enough to permit their swift concentration along the main line of attack at the proper time. Scenarios developed by Soviet writers suggest the following subsequent actions:¹

From a dispersed formation, troops are massed along the main line of attack. The concentrated forces, either alone or in conjunction with tactical nuclear strikes, make a break in the defensive line of the enemy. Swiftly, the troops break through the gap and move into the depth of the enemy. The breakthrough is followed by a rapid redispersal in order to prevent the enemy from full utilization of his nuclear weapons. Bypassing strong-points and centers of resistance, the troops move quickly into the depth of the enemy.

This theorizing on the nature of future wars can be invalidated to a large degree should the Soviets choose or be forced to fight in cities. As has been previously cited, city fighting is characterized by "limited and slow" maneuvers which are hardly consistent with these prescriptions for "high maneuverability," "quickness" and "swiftness." While Soviet writers view nuclear warfare as causing "dispersion," swift "breakthroughs" and "rapid redispersal," the use of nuclear weapons in cities could promote such rubble and local contamination that there would be serious impediments to any movement.

¹ See, for example, Colonel V. Ye. Savkin, The Basic Principles of Operational Art and Tactics (A Soviet View), translated by the United States Air Force, pp. 167-239 (Washington, D.C.: GPO, 1972); Colonel I. Nikolayev, "Breakthrough of Enemy Defenses," Soviet Military Review, No. 7, pp. 10-13 (July 1974); General Major V. Matsulenko, "Breakthrough of Enemy Defenses," Soviet Military Review, No. 1, pp. 54-56 (January 1974); Reznichenko, op. cit., pp. 74-89. Cf. P. H. Vigor and C. N. Connelly, "The Soviet Threat to Europe," RUSI, Vol. 120, No. 1, pp. 69-73 (March 1975).

C. Principles and Forms of Tactical Warfare

Soviet tactical doctrine identifies four distinct forms of combined arms combat: the meeting engagement, the offensive, the defensive, and the withdrawal. There are characteristics of each of these four categories of tactical combat operations which will influence the Soviet approach to combat in and for cities. These characteristics are discussed in more detail in the following passages.

1. The Meeting Engagement

Soviet writers point out that the probability of meeting engagements "has significantly increased" under contemporary conditions. Not only will these engagements be more complicated than previously, but they will also involve exposed flanks and sizable intervals between the various elements of the combat formation.¹

It is stressed that meeting engagements may arise under numerous different conditions. Warning against stereotyped tactical training, one Soviet source explains that:

In addition to a march, a battalion may independently conduct a meeting engagement under very different combat conditions: after committing itself into action for the development of an offensive, in the course of an offensive in the depth of the enemy's defense, when overcoming a security zone, when pursuing the enemy along a parallel march, when operating on an exposed flank and in disconnected sectors, and especially when terrain conditions compel it; in the course of the advance of airborne troops from the landing place to the object fixed for seizure; in the second echelon (in the reserve) in the defense; as well as in all cases where there are large intervals with adjacent elements along the front and

¹ Lieutenant Colonel V. Kokhanov, "Meeting Engagement of a Motorized-Rifle Battalion," Voyenny Vestnik, No. 3, p. 51 (March 1975).

in the depth, when the actions of adjacent elements are halted by active enemy resistance or they have sustained great losses.¹

Another Soviet writer similarly points out that meeting engagements will most likely develop (1) during an offensive, when the enemy is counterattacking, (2) during a Soviet counterattack, and (3) during a march. In the first instance, fighting will occur along the flanks with those enemy reserve units and second echelons which may have been bypassed. In the second, it is noted that a defensive counterattack on the Soviet part will "almost always" occur as a meeting engagement.²

Special emphasis is given to the increased potential for meeting engagements at the outset of war where forces advance over long distances before making initial contact. As the tactical manual of the Officer's Library noted:

In a future war, if the imperialist aggressors unleash it, the initial period acquires especially important significance.

After massive nuclear strikes with strategic weapons, using their results and acting with them, the ground forces will immediately begin active and decisive combat actions. Their actions will be characterized by a large spatial sweep, dynamic and swift development in separate directions, wide application of different forms of maneuver, and the absence of solid fronts. Conflict will acquire an extremely intensive character. The sides will strive to fulfill their fundamental missions by a decisive offensive, in consequence of which meeting battles and engagements will frequently occur.³

¹ Colonel V. Vinnikov, "On Meeting Engagement," Voyennyy Vestnik, No. 1, p. 22 (January 1973).

² Colonel P. Kunitskiy, "On Meeting Engagement," Voyennyy Vestnik, No. 8, pp. 59-62 (August 1974).

³ Reznichenko, Taktika, p. 198.

Among the traits which Soviet spokesmen consider important for conducting meeting engagements, two of the most significant are the time factor and dispersal. The very essence of this type of fighting, says one author, "consists of each side's use of speed, maneuverability, and speed of introducing troops and building up combat efforts."¹ With regard to troop dispersal, it has been stated that "striving to reduce the effectiveness of enemy nuclear strikes compels commanders to advance units and subunits into regions of a meeting engagement in formations dispersed along the front and in the depth."²

Urban warfare presents many opportunities for meeting engagements, particularly at the small unit level. Soviet military writers emphasize the advantages the defender has in meeting engagements under circumstances where he has made good use of obstacles, has preregistered his artillery support, has laid his fields of fire and has organized his defensive positions. Such conditions are all characteristic of a well planned defense in city fighting. The following are the features identified in Soviet doctrine as being characteristic of meeting engagements in the contemporary period:³

- There is continuous and intense combat to capture and retain the initiative
- Deployment for combat is chiefly made from a column formation
- There is great confusion at the initiation and during meeting engagements
- The situation changes rapidly and drastically during meeting engagements

¹ Colonel I. Vorob'yev, a professor and doctor of military science, in Krasnaya Zvezda (5 March 1975).

² Colonel A. Serov, "The Meeting Engagement of a Battalion," Voyenny Vestnik, No. 3, p. 20 (March 1972).

³ Reznichenko, Taktika, pp. 204-211.

- There is normally high speed in maneuvering elements
- Combat formations change rapidly
- There are wide fronts, open flanks and a high degree of freedom of maneuver.

The requisite combat initiatives for success in a contemporary meeting engagement are identified by the Soviets as:¹

- The acquisition of continuous and thorough knowledge of the enemy
- Rapid decisionmaking and communicating such decisions to the troops
- Preemption in nuclear attacks and gaining fire superiority
- Early occupation of favorable terrain
- Flank security
- Initiative and independence of unit commanders.

There are few discernible differences in detail between the Soviet and U.S. tactical doctrines for meeting engagements. Both U.S. and Soviet tacticians emphasize (1) the need to seize the initiative, (2) the need to protect one's flanks while searching for the enemy's, (3) the high incidence of confusion and (4) the lack of intelligence. In U.S. doctrine there seems to be more emphasis on communication with higher and adjacent headquarters while the Soviets tend to emphasize the necessity of communications down to the troops.² The Soviets also tend to give more emphasis to the "attack from the march" or meeting engagement.

¹ Ibid., pp. 211-218.

² See, for example, Headquarters, Department of the Army Field Manual, FM 7-20, The Infantry Battalions, pp. 4-24 (hereafter cited as FM 7-20) and Reznichenko, Taktika, pp. 138-139.

2. The Offensive

According to a leading Soviet military figure, in general war, offensive operations "will be the basic means of solving the tasks of armed conflict in land theaters of military operations."¹ Due to improved weaponry in the postwar years, say the Soviets, the offensive will be exceptionally dynamic and highly maneuverable. Combat action will develop extremely irregularly; that is, without a continuous front line. This will result in many gaps in the combat formation, as well as the presence of open flanks. Consequently, rapid maneuvers will be characteristic of the offensive.²

Writing in mid-1972, one leading Soviet tactician defined maneuvers as consisting of five basic forms:³

- Envelopment
- Encirclement
- Frontal assault
- Maneuver by air
- Withdrawal

Envelopment was described as a maneuver whose objective is to strike a blow at the enemy's flank. Encirclement was a deeper maneuver, whose objective is to strike at the enemy's rear. Envelopment and encirclement are preferred types of maneuvers. However, it is sometimes necessary to resort to a frontal attack when terrain is unfavorable for flanking, when time for flanking is unavailable, and when enveloping enemy

¹ Sokolovskiy, Voyennaya Strategiya, pp. 352-353.

² Sidorenko, pp. 57-61.

³ Colonel V. Savkin, "Maneuver in Battle," Voyenny Vestnik, No. 4, pp. 26-27 (April 1972).

units are unexpectedly encountered. Maneuver by air permits rapid movement over great distances. Withdrawal is a "forced" maneuver, in which troops are removed from the blows of a superior enemy force and transferred to a more favorable line.¹

In the Soviet view, the following advantages accrue to forces which adopt the offensive:

- They gain the initiative
- They achieve time in which to better
 - plan
 - mass forces at critical points
 - prepare for future operations
- They are imbued with higher morale while the morale of their adversary is degraded
- They are able to focus forces for maneuver in critical directions
- It takes them to the enemy
 - positions
 - resources
- By closing with the enemy it deprives him of the use of his weapons of mass destruction against forward forces.²

¹ Savkin's classifications were not without criticism. In 1972, several other writers rose to challenge this description. See, Colonel F. Sverdlov, Lieutenant Colonel R. Portugal'skiy, and Colonel N. Mal'ginov, "On the Question of Maneuver in Battle," Voyennyy Vestnik, No. 8, pp. 30-33 (August 1972); and General Lieutenant V. Reznichenko, "On Maneuver in Battle," Voyennyy Vestnik, No. 12, pp. 39-49 (December 1972). Cf. also, Y. Novikov and F. Sverdlov, Maneuver in Modern Land Warfare, pp. 28-36 (Moscow: Progress, 1972).

² Reznichenko, Taktika, pp. 70-71; and Sidorenko, pp. 1-2.

The "essence" of the Soviet offensive indicates a fairly standard concept of how tactical attacks will be planned and conducted in contemporary war. Soviet tacticians describe the opening phases of combat, commencing with a nuclear strike followed by aerial strikes, artillery barrages and the rapid advance of forces into the depth of the enemy position to seize and destroy personnel, material, equipment and critical terrain.¹ It is, in effect, a modern, large-scale version of the German blitzkrieg. The Soviets credit the introduction of nuclear weapons for employment on the tactical battlefield with revolutionizing concepts of warfare. Nuclear weapons are recognized as providing the capability to completely destroy enemy massed forces in very brief periods of time. The "ratio of forces" to which Soviet strategists and tacticians refer is seen to be a singularly unstable index in nuclear war. The first priority target in such war is the enemy nuclear delivery capabilities.

The following are viewed as the chief characteristics of contemporary nuclear warfare for offensive operations:²

- There will be an increase in the "intensity", violence and destruction of combat
- The "spatial sweep" of the offensive will be broadened
- The "struggle for firepower superiority" will be intensified
- The importance of the capability to maneuver will be increased
- There will be a fractionalization of the battlefield with many separate actions taking place across a broad area
- Radioactive areas will provide effective barriers to the maneuver of forces.

¹ Reznichenko, Taktika, pp. 70-71.

² Ibid., pp. 245-247.

In urban warfare, Soviet emphasis upon initiative and aggressiveness on the part of offensive forces becomes particularly important. The nature of urban combat with the profusion of obstacles, barricades, cover and concealment encourages inertia. Should commanders not be aggressive, lengthy sieges, stalemate, and slow attrition begin to take their toll on the attackers.

The principal difference between the Soviet and U.S. tactical doctrines for offensive operations found in standard manuals is on the employment of nuclear weapons. In Soviet doctrine, use of nuclear weapons is cited as being "the most important and decisive act of offensive combat."¹ The employment of nuclear weapons is institutionalized in that they are consistently identified as being the initial weapons to be used in an offensive action. Compared to Soviet publications, U.S. field manuals such as FM 7-30 (The Infantry Brigades) and FM 7-20 (The Infantry Battalions) give very light treatment to nuclear fires in offensive operations, and those references which are made seem incidental and based on contingencies:

- When nuclear or chemical munitions are employed, the battalion exploits these fires
- The commander's concept may include ... use of nuclear and other fire support...
- Conventional, nuclear and chemical fires may be employed to accomplish tasks appropriate to a supporting attack
- When nuclear or chemical weapons are employed prior to an attack, their delivery is closely coordinated with the time of attack.²

It is not the purpose of the above citation of differences between Soviet and U.S. tactical doctrine on the offense to make a judgment on either approach. An interpretation of the significance of the difference between the two approaches would require much more analysis than is

¹ Sokolovskiy, Voyennaya Strategiya, pp. 347-348.

² FM 7-20, op. cit., pp. 4-1 to 4-8.

merited here. It is sufficient to note that there is a very real and significant qualitative and quantitative difference in the approach to the employment of nuclear weapons in Soviet and U.S. tactical writings, with Soviet literature institutionalizing the employment of such weapons and U.S. literature seeming to deemphasize such employment.

3. Defense

Among Soviet tacticians, defense is not a preferred course of action. Indeed, defense is described as a "forced type of combat," which is to be used only when an attack is impossible or inadvisable or when it is necessary to economize on forces in one area in order to support an attack in another area.¹ Under these conditions, it is explained that the objectives of defending troops are "to repulse an offensive by a superior force of the enemy, inflict heavy casualties on him, hold the secured position, and create conditions for transformation to a decisive offensive."²

Soviet literature is emphatic on the point that defense must not be passive. As one Soviet general officer has stated:

... the Soviet Army never acknowledged passive defense. Even the very structure of the defense is used as the starting point for passing over to the offensive. Any form of defense presupposes active combat operations, employment of fire weapons and resolute counterattacks.³

Another general officer, similarly emphasizing activity as "one of the most important requirements related to defense," notes that this activity "consists in the continuous hitting of the enemy by fire and in carrying out

¹ Odintsov, p. 128.

² Colonel A. Serov, "The Motorized-Rifle Battalion in Defense," Voyenny Vestnik, No. 7, p. 28 (July 1972).

³ General Lieutenant V. Reznichenko, "Combat Activity," Soviet Military Review, No. 4, p. 24 (April 1974).

wide maneuvers by subunits and fire weapons and with artificial obstacles, as well as in conducting decisive counterattacks."¹

In Soviet tactical doctrine the defense, even while having the advantage of selecting and preparing the terrain for combat, is categorized as leading to inconclusive results, giving the defender the advantage of selecting and preparing the terrain for combat, being subordinated to the overall interests of the offensive, and being employed in areas of secondary concern. The purpose of defensive combat is to:

- Repel the attack of superior enemy forces
- Inflict losses on the enemy
- Hold critical terrain
- Create conditions which will permit transition to the offensive.²

In addition to the heavy Soviet emphasis on the offensive directed toward gaining enemy territory and destroying enemy forces and equipment, another apparent reason for avoiding passive defensive deployments whenever possible is traceable to the Soviet desire to avoid the destructive potential of nuclear weapons. Consequently, as in the offensive, troop dispersal in the defensive is given considerable attention. It has, for example, been declared in one Soviet work on tactics that:

An important trait of modern defense is the furthest dispersal of troops both along the front and in the depth. Application of dispersal was one of the first methods of solving the problem of the preservation of manpower and raising the stability of defense under conditions of the attacker using nuclear weapons. The opinion is expressed that, as nuclear ammunition of less

¹ General Lieutenant P. Varushin, "Activity of the Defense," Voyenny Vestnik, No. 3, p. 26 (March 1971).

² Reznichenko, Taktika, p. 319.

caliber appear, the degree of dispersal of troops on the field of battle will increase.¹

The new methods developed for defense on the nuclear battlefield are designed to provide emphasis on an "active" force which is "stable" and which demonstrates a high degree of capability in antinuclear and antitank operations. Maneuver becomes more important to the defense as do counterattacks to repel tank attacks and breakthroughs in depth into defensive positions. The Soviets demonstrate concern for the effectiveness of remotely piloted vehicles and give priority to antiaircraft, antimissile and antiairborne defense.

Defense, according to Soviet tacticians, will no longer be linear but will have a character of all around 360° security with the front arbitrarily identified as the direction from which the enemy launches his attack. There will be dispersion of forces in depth as well as laterally. Fortifications should be designed to shield troops from nuclear blast and radiation and must be developed over very brief periods of time. Defense against nuclear attack also will be achieved through camouflage and deception and intelligent use of the cover of darkness.

In studying Soviet defensive doctrine there appears to be equally as much to learn of how the Soviets anticipate they will conduct offensive operations in a nuclear environment. There is the great emphasis, for example, on defending against blitzkrieg-style attack with deep penetrations by armor and airborne forces. There may be some distinction between the U.S. concepts of airborne operations and those of the Soviets. U.S. forces

¹ Ibid., p. 326.

are light on airborne (i.e., paradrop) divisions vis-a-vis the Soviets (at a 1 to 7 ratio). On the other hand, the United States lays more stress on airmobile operations by heliborne forces.¹

Nevertheless, even though Soviet defensive tactics seem to reflect their predilection for offensive combat, they do recognize the distinctive characteristics of U.S. force structure. Very specifically the Soviets single out "aerial maneuver of troops" with helicopters organic to the U.S. army as being significant.

4. The Withdrawal

The Soviets postulate that greater reliance may be placed upon withdrawal operations in contemporary war not as a consequence of a forced retreat but as a deliberate tactic to draw an enemy into a position where he is vulnerable to a nuclear strike or to buy time to bring up reinforcements.

In U.S. tactical doctrine, withdrawal operations are grouped under an overall category of retrograde operations which also includes delaying, retiring and relief operations. The Soviets, while recognizing that these categories reflect doctrine in other national armies, do not make the same categorical distinctions. While withdrawal operations may be initiated for any number of purposes, there seems to be a reluctance to dignify the tactic by analyzing components of movements to the rear in great detail. There is emphasis, however, as in U.S. doctrine, that withdrawals are accomplished only upon receipt of an order from the senior

¹ It is always hazardous to make relative comparisons for forces without a complete analysis of all the factors which contribute to combat efficiency, such as strength, firepower, mobility, etc. In this instance it is of interest that U.S. airborne divisions are at a 13,000-man strength while Soviet airborne divisions are manned at 7,000. NATO fields 5(-) airborne divisions while Warsaw Pact countries have 9(-) such divisions. Source: The Military Balance 1974-1975 (The International Institute for Strategic Studies, London, 1974).

commander. The initial stage of withdrawal is always disengagement, which is judged to be near impossible in daylight operations. When disengagement must be executed during daylight hours, Soviet forces are trained to make maximum use of smoke, cover, demonstrations, concealment and deception. The withdrawal in built-up areas is facilitated by natural conditions of cover and concealment and the characteristic lack of intelligence on the disposition of opposing forces.

III SOVIET COMBAT TRAINING FOR URBAN WARFARE

This chapter is divided into three major sections providing:

- A discussion of the importance the Soviets attach to field combat training.
- Illustrations of specific Soviet exercises and description of exercise courses the Soviets have constructed for urban operations.
- A brief summation.

A. Soviet Emphasis on Importance of Combat Training

Offensive fighting in a large city is one of the most complex types of troop combat activity and demands thorough training.¹

According to the first deputy commander-in-chief of the Soviet Ground Forces, the attainment of success in a modern combined-arms battle "will to a considerable extent depend on tactically knowledgeable, bold, and vigorous operations by small units--companies, platoons, sections, crews, and teams."² Such a battle is described as not only a confrontation of material forces, but also a contest of brains and wills. With regard to the mental factor, one candidate of pedagogical science has noted that "the dependence of military skill on mental processes--thinking, imagination, attention, memory, etc.--increases as armies are supplied with more technical equipment and the weapons and fighting itself becomes more complicated."³

¹ Colonel A. Sidorchuk, "Combat Actions of Troops in the Seizure of Large Cities," Voyenno-Istoricheskiy Zhurnal, No. 10, p. 27 (October 1971).

² General Colonel V. Yakushin, "To a New Stage of Combat Skill," Znamenosets, No. 12, p. 2 (December 1974).

³ Lieutenant Colonel I. Vydrin, "Developing Tactical Thinking," Soviet Military Review, No. 6, p. 25 (January 1971).

Just as important for success is the will of the soldier, represented by his moral-political and psychological qualities. As defined in a journal of the Main Political Administration, moral-political qualities are those "qualities of Soviet soldiers which express their conscientious attitude towards the policies of the State and Party and their ability to proceed and perform in the interest of reliably defending the socialist homeland."¹ It is these moral-political qualities, notes one training guide for political workers, which form "the foundation of all other qualities essential to a guardian of the Fatherland."² Psychological qualities include functional reliability and a steadfast state of mind, which covers the ability to concentrate attention for a prolonged period of time, the ability to accurately recall something, speed of reaction, and maintaining self-control in a dangerous situation, etc. Soviet writers constantly stress that these psychological qualities are vitally important and must be increased through training. As one source stated:

A soldier, deeply loyal to his homeland, but not possessing these special psychological qualities, can lose his head in battle, yield to panic, and not fulfill the combat mission. Based on their own combat experience, participants of the war know how it was difficult originally to adapt to a combat situation and to overcome the psychological barrier of a sense of danger. An "experienced" soldier acts confidently in battle not because he is indifferent to danger, but rather because he was taught "to subordinate passionate reason." This circumstance evoked a special trend in the education of troops--psychological training.³

In Soviet military literature, moral-political and psychological training is quite closely tied with combat training in the field. One military writer has described the field as "that laboratory, where military skill is polished" and has observed that "here the unification of the

¹ Colonel N. Tabunov, "V.I. Lenin-the Founder of the Theory of Communist Education," Kommunist Vooruzhennykh Sil, No. 2, p. 16 (January 1974).

² "Methodological Recommendations," Kommunist Vooruzhennykh Sil, No. 7, p. 24 (April 1974).

³ Tabunov, p. 16.

theoretical knowledge and practical skills acquired at the various objects of training takes place and the high moral-combat and psychological qualities of soldiers are formed."¹ Another has noted that field combat training has "an appreciable effect" on the soldiers' stability because "it is particularly in conditions of the utmost moral and physical strain that the men's character becomes hardened, their will-power, self-possession, fearlessness and staunchness grow, and they acquire the ability to act boldly and resolutely in tense and dangerous situation of modern battle."² In even greater detail, the command of the Central Asian Military District has explained that:

Moral-political and psychological preparation of troops occupies an important place in field training under contemporary conditions. This is a complicated and lengthy process of education. It continues the full length of military service, but field exercises and tactical trainings offer the most favorable conditions for it. Simulation of a nuclear strike, driving tanks under complex mountain conditions, rolling over personnel with tanks, throwing live hand grenades, attacking after mine, shell, and bomb explosions, while simultaneously firing all kinds of weapons during the day and night, repulsing air raids, and dropping airborne troops by parachute or landing by helicopter in the rear of the "enemy"--this is far from a complete list of conditions, which help form the high moral-combat qualities in troop personnel."³

No less emphasis is attached in Soviet literature to the importance of field combat training for the acquisition of combat skills. Field training is viewed as the foundation of troop combat preparations. For this reason, it has been suggested that "students should be put in conditions approximating combat as much as possible."⁴ Within this field

¹ Major A. Raspopov, "When They Forgot About Tactics," Voyennyy Vestnik, No. 10, p. 18 (October 1973).

² "As in Real Battle," Soviet Military Review, No. 1, p. 21 (January 1975).

³ General of the Army N. Lyashchenko, "Field Training of Troops Is the Focus of Attention," Kommunist Vooruzhennykh Sil, No. 19, pp. 41-42 (October 1974).

⁴ Colonel I. Sevryukov, "To Successfully Create a Target Layout," Voyennyy Vestnik, No. 10, p. 38 (October 1971).

training, note Soviet authors, the basic principle to be applied is: "Teach troops that which is necessary in war."¹ Summing up the point, the deputy chief of the administration of combat training of the Far Eastern Military District has claimed that field training must play an important role.

As is known, field training is the foundation of high combat readiness of troops. Only in the field can the entire arsenal of weapons of fighting a powerful, well-armed enemy be mastered. And thus one of the principles of training says: teach troops that which is necessary in war; then it is natural that field exercises and training lessons occupy an important place in the combat training of units and subunits of our district.²

Furthermore, a March 1975 article in a military newspaper states that greater attention and increased time is being devoted to the tactical training of officers, especially by means of field exercises. According to the article:

In past years in the training programs of military schools, the proportion of tactical training has noticeably increased. This is a gratifying fact. Training sections have begun to plan field exercises more precisely and to use the facilities of training centers better and more fully. Tactical training departments are also displaying more thought and creativity in organizing lessons. Great attention is given to perfecting the methodological skills of the instructors. The content and quality of lectures on tactics have improved.³

¹ "To Utilize the Training-Material Base Skillfully," Voyennyy Vestnik, No. 12, p. 2 (December 1971). See also Colonel V. Yegorov, "In the Interests of Tactics," Voyennyy Vestnik, No. 10, p. 11 (October 1974).

² General Major A. Kozlov, "As Contemporary Battle Demands," Znamenosets, No. 10, p. 2 (October 1974).

³ Krasnaya Zvezda (25 March 1975).

B. Soviet Urban Warfare Training

In order to approximate urban combat conditions as closely as possible, the Soviet Armed Forces have developed training mock-ups which simulate situations encountered in fighting in a built-up area. Based upon Soviet descriptions in open source literature, these training fields range from the simple to the very complex. On the less complicated fields, short exercises are conducted which familiarize the troops with many diverse and basic tactical techniques. On the more elaborate fields, protracted exercises are conducted which acquaint troops with more difficult procedures and missions requiring the coordination of several service arms. Utilizing recent Soviet open-literature military journals, this section will summarize several Soviet descriptions of training facilities.

1. Training Field No. 1

Describing various sectors of a training field in the Transcarpathian Military District, an article in a Soviet military journal states:

A model of a populated point of a city type with a center of resistance in its dimensions 500 meters long and 300 meters deep, in which exercises with platoons, companies, and batteries can be conducted, has been created.¹

The same article goes on to describe other sectors of the training field which are used for tank, low-flying target, nuclear weapon, and chemical weapon training.

2. Training Field No. 2

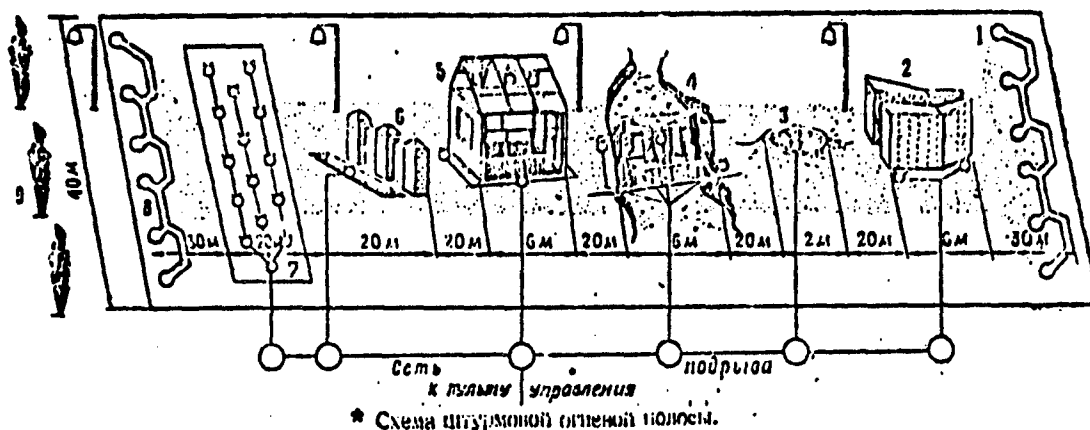
One unit in the Moscow Military District is credited with having constructed a training field,² which is aimed basically at working out

¹ "To Utilize the Training-Material Base Skillfully," Voyennyy Vestnik, No. 12, p. 4 (December 1971).

² Colonel I. Afansov, "In Order to Attack in a City More Successfully," Voyennyy Vestnik, No. 6, pp. 101-103 (June 1970).

problems related to protection against incendiary devices. The field is 40 meters by 200 meters. According to the Soviet description, the field contains, inter alia, seven obstacles of the type "which are most frequently encountered during fighting on streets of cities."

* DIAGRAM OF THE ASSAULT FIRE STRIP



Point 1 is a full trench profile, which serves as the starting point for an infantry squad. Point 2 is a brick corridor, which is 6 meters long, 2 meters high, and 70 centimeters wide and has a 135° angle in its center. The corridor is designed to simulate an underground corridor or a narrow passage between buildings. Point 3 is a shell crater, 2 meters wide at the top and 90 centimeters deep. Point 4 is a partially burned bridge, 6 meters long and 4 meters wide. Point 5 is a damaged building. According to the Soviet description of the building:

The frame of it is welded out of rod iron or pipe, the front and back walls are made of brick, the roof is iron or tin-plated. On the right and left walls are fastened four U-shaped metal corners, which are evenly distributed along the entire length of the house, with two on the inside and two on the outside. The dimensions of the house are: width, 3 meters; height, 2.5 meters; and length, 6 meters.¹

¹ Ibid., p. 102.

Electric cables have been laid in the field so that explosions and firing can be simulated and targets can be lifted.

3. Training Field No. 3

[illegible]

53

contaminated areas, and mined obstacles. The third sector contains the most frequent engineer reconnaissance objectives in populated points and objectives for destruction in the enemy's rear area.

Sector 3 is described as having the following:

20. Wall of a demolished building
21. A telephone pole
22. A mined entrance to a building
23. A destroyed house
24. A drain pipe
25. A flue
26. A railway point
27. A wooden (stone) fence
28. A rope suspension

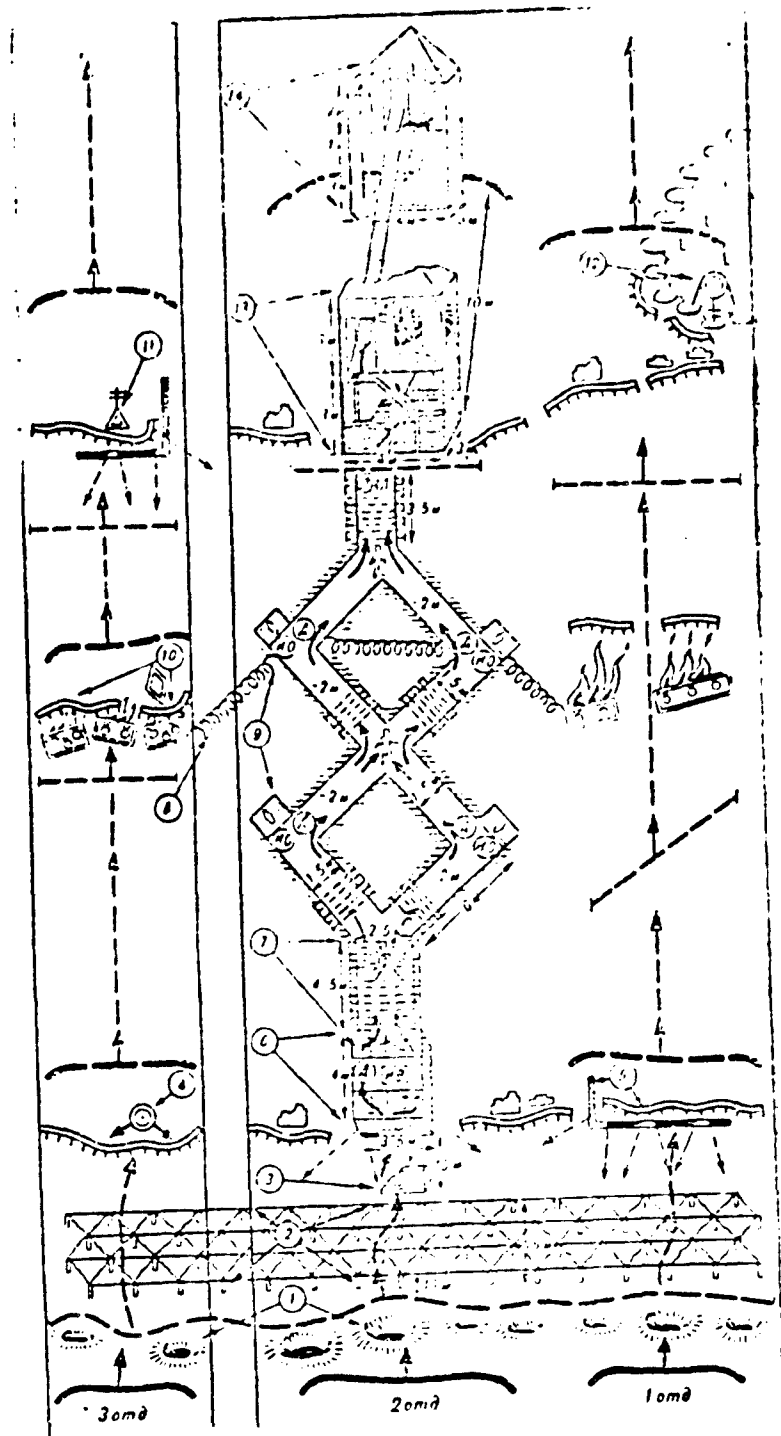
According to the author of the article, primary attention is focused in the third sector on "methods of breaching various obstacles and reconnoitering and disarming booby traps."¹ Squads rotate on the three sectors during a three-hour exercise.

4. Training Field No. 4

At the Leningrad Higher Combined-Arms Command School,² a tactical training field for the training of future officers has been built. The field, pictured below, is described as being two kilometers in depth.

¹ Ibid., p. 85.

² Colonel L. Tsarikov, "The Psychological Preparation of Future Officers," Voyenny Vestnik, No. 12, pp. 55-59 (December 1972).



According to the article, the field has the following facilities (as numbered in the original drawing):

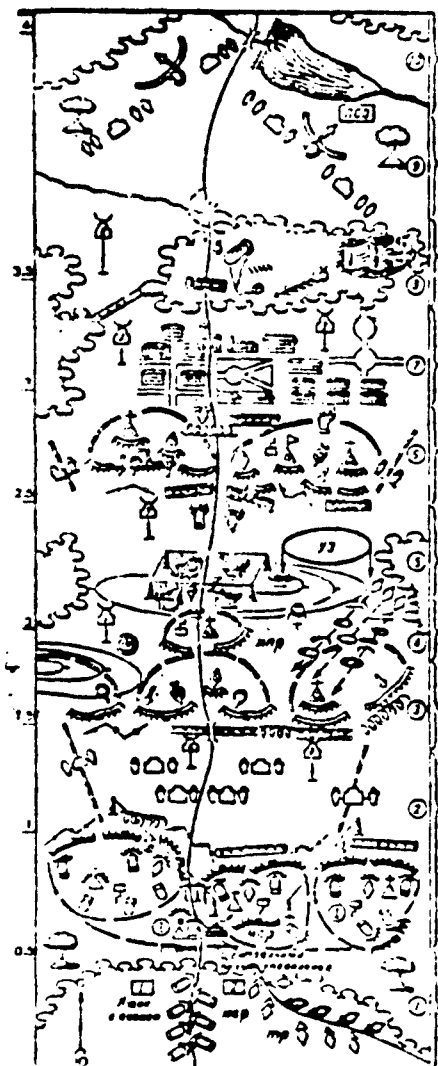
1. Craters
2. Short picket wire obstacle
3. Collapsed brick wall
4. Pillbox
5. Collapsed building fortified for defense
6. Mockup of a single-story brick building
7. Underground shelter with entrance hatch
8. Obstacles
9. A maze of underground structures terminating in two manholes, with a fire simulator, and full-length targets in each corner.
10. A tank in an entrenchment and a sector of controlled landmines
11. A command post set up in a demolished building
12. A firing position for a mortar subunit
13. Mockup of a two-story building with a collapsed first-floor wall; interior contains a loudspeaker and fire simulator
14. Mockup of a two-story building fortified for defense

In addition to illustrating the layout of the training field, a specific exercise on the field is described. Among other tasks, the troops are required to assault the buildings, pass through a maze of underground structures, cross between upper stories of the buildings, and endure simulated shellbursts, shouts, and commands in foreign languages.

5. Training Field No. 5

A recent article in a Soviet military journal points out that similar tactical training fields have been erected in several units of the Transcarpathian, Leningrad, and Moscow Military Districts and at the

Military imeni the RSFSR Supreme Soviet.¹ The fields are described as 2 kilometers wide and 4 kilometers deep. The author notes that the fields are constructed to permit activities at any time of the year, day or night, with or without the use of weapons of mass destruction, and coordinating several subunits.



7. Sector of buildings of a populated point of a city type with an adjacent settlement of a rural type for teaching the organization and conduct of offensive and defensive fighting in a city.
5. Complex of elements for psychological training intended for teaching activities at high altitudes and under conditions of the enemy's use of incendiary devices.

¹ Colonel V. Kalikhovich, "The Tactical Training Field," Voyennyy Vestnik, No. 11, pp. 48-51 (November 1974).

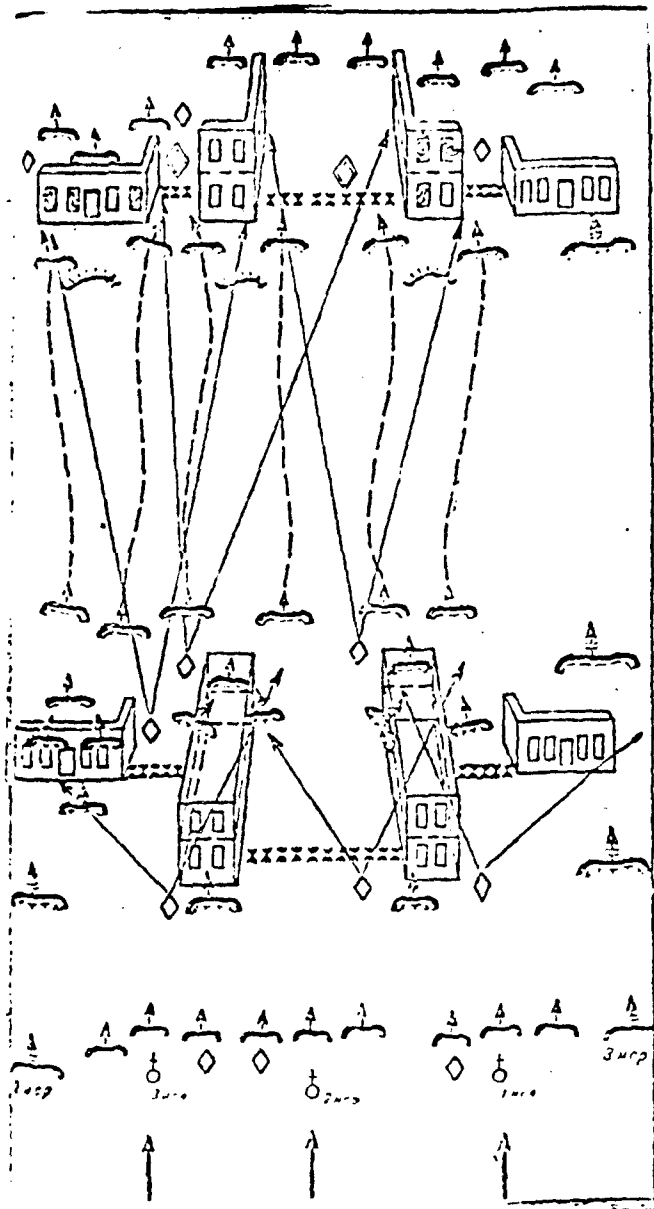
With regard to urban combat, Points 5 and 7 are most important. As depicted in the Soviet drawing, Point 5 includes several mockups of buildings, wherein incendiary devices can be simulated. Point 7 is more complicated; it contains building found in rural and urban settings, as well as open areas between buildings and diverse types of intersecting streets.

6. Training Field No. 6

In 1971, a Soviet general officer published in a military journal an outline for a training field and a plan for "the advance by a reinforced motorized-rifle company in a town." While the wording of the article leads this writer to have doubts on the existence of the training field, the article is summarized here for its hypothetical importance.¹ According to the Soviet author, the training field should include a mockup of a town, 500 meters wide and 300 meters deep. He also elaborated in detail a field exercise for a motorized-rifle company, a tank platoon (three tanks), and a sapper squad. The two-hour exercise is broken down according to the following training issues and time allotments.

<u>Issue</u>	<u>Time</u>
Organization of fighting in the city	15 minutes
Conducting fighting on the approaches to the buildings	20 minutes
Storming and capture of buildings	30 minutes
Conducting fighting for capturing an open space and the buildings behind it	25 minutes
Critique of the lesson	10 minutes

¹ General Major N. Sergeyev, "The Tactical Training Field," Voyennyy Vestnik, No. 7, pp. 41-48 (July 1971).



7. Training Field No. 7

In 1970, an article by a Soviet general officer presented a detailed description of a protracted exercise on the topic "Offensive of a motorized-rifle battalion in a populated point and the capture and reinforcement of advantageous zone."¹ Lasting a total of six hours, the exercise was to be held at a training center, the exact location of which was not given. The plan specified for the battalion to be reinforced by tank companies, artillery battalions, and sappers. The enemy was simulated by a motorized-rifle platoon on armored personnel carriers with three tanks and one rotor trench digger.

The exercise plan delineates four separate operations, with the specific time allotted for each operation:²

- Attack of the enemy and taking buildings on the outskirts of the populated point (one-story buildings), 8:30-10:00
 - Moving to the buildings under the cover fire of artillery and tanks,
 - Exit from captured buildings and continuation of attacks.
- Conducting street fighting, 10:00-11:30
 - Techniques for attacking along main streets and through parks, gardens, and yards,
 - Overcoming barriers, obstacles, and ruins, and
 - Circling and blockading individual buildings.
- Attack on buildings in the center of a populated point and fighting inside of them, 11:30-13:00
 - Moving to buildings from the front and flanks under the cover fire of artillery and tanks,
 - Waging battle by the assault group, and
 - Fighting on the first, second, and third floors.

¹ General Major of Tank Troops A. Zyryanov, "Offensive of a Battalion in a Populated Point," Voyenny Vestnik, No. 6, pp. 18-24 (June 1970).

² Ibid., p. 21.



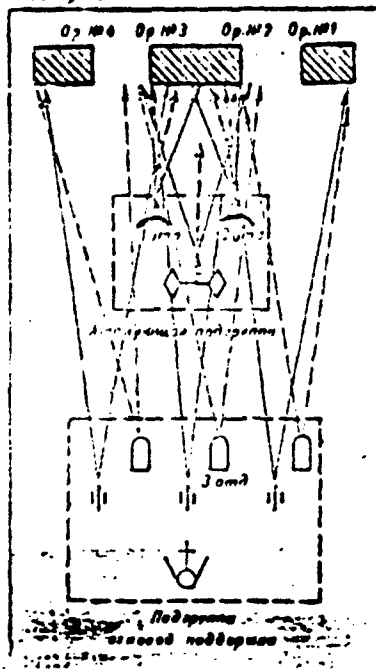
- Reinforcing captured buildings and repulsing a counterattack of the enemy, 13:00-14:00

- Selecting and occupying positions for fire weapons in buildings and around them,
- Setting mined fields, and
- Repulsing a counterattack by the tanks and infantry of the enemy.

Moreover, it should be noted that the author gives a detailed account of the activities and techniques implemented during each phase of the exercise by the infantry singly and in coordination with the other service arms.

8. Training Field No. 8

A similar, though somewhat less elaborate, plan for an exercise on the theme "Combat of a motorized-rifle platoon in a city" was published in a Soviet military journal in 1969.¹ Unlike the previous plan which concerned a multi-block area, this plan concentrates more closely on the approaches to and inside of individual buildings. Devised for three hours, the exercise is divided into three phases:



- Combat on approaches to building, 60 minutes
 - Line of departure lesson,
 - Suppression of enemy fire weapons in the building and on the flanks, and
 - Attack and fight for securing the first floor.
- Destruction of the enemy in the building, 1 hour and 50 minutes
 - Clearing the first floor,
 - Intensification of efforts to clear the building, and
 - Consolidation of captured objective.
- Critique of the exercise, 10 minutes.

¹ Colonel A. Romanenko, "Combat of a Motorized-Rifle Platoon in a City," Voyenny Vestnik, No. 12, pp. 40-44 (December 1969).

In addition to an enumeration of specific equipment required for such an exercise, the author describes in depth the tactical methods employed in scaling buildings, moving along rooftops, assaulting a three-story building, and seizing individual rooms within the building. An especially interesting passage gives a recommendation for the type of structure to be constructed in order to carry out exercises on approaching and fighting within a building.

The approach to a building and the destruction of an enemy in staircases, in garrets, and in basements is very difficult. These methods must, therefore, be worked out and first of all with the platoon (squad) in tactical lessons. This can be done on an especially equipped tactical field, where there are mockups of multistoried buildings. One of the floors should be equipped with a corridor arrangement of rooms, and the remaining floors, with individual entrances and staircases. It should also be provided with a basement. It is advisable to build a stone fence in front of the house. A neighboring building should be designated by a wooden mockup (of one wall). For an entrance into the building, instead of windows and doors, breaches in the walls of the ground floor are used; and for passage from one floor to another, breaches in the ceilings are used. It is recommended to destroy a separate section of the staircase and to barricade a part. In some windows and door openings are to be built loop-holes and embrasures for machineguns, automatic weapons, and other kinds of light weapons; in separate open windows are to be mounted anti-grenade nets. Between buildings should be built trenches and communication trenches. For designation as enemy activity, targets, part of which are controllable and with firing simulators, are used.¹

C. Summary

The Soviets emphasize the importance of preparing the soldier morally, politically and psychologically as well as in tactical technical proficiency irrespective of the nature of combat. Field training is considered to be

¹ Ibid., p. 40.

the foundation of troop combat preparations. The Soviets describe a number of training facilities devoted to techniques of urban combat a few of which are described here. In general, the facilities and training routines appear to be similar to those developed within the U.S. forces. Training field number 4, described in these pages, is a particularly elaborate course over two kilometers in depth including a number of single and multistory buildings, underground passages and extensive rubble.

The research conducted for this study has uncovered a significant amount of information on Soviet urban warfare training. The findings confirm other indications that this form of tactical operations has a high Soviet priority not only in doctrine but in training as well. There is insufficient information available in open literature to make a detailed comparison of emphasis and frequency between urban and other forms of tactics; however, there is little doubt of the Soviet serious concern for urban warfare.

IV SOVIET TACTICAL DOCTRINE FOR URBAN WARFARE

This chapter provides a description of the roles of several arms of the Soviet services in urban warfare. The list does not correspond to the categories of combat arms in either the USSR or U.S. armed forces but rather to the general groupings of guidelines found in Soviet literature. Therefore, the following list does not replicate the division of Soviet forces but it is representative of the categories Soviet authors cite as being significant to urban tactical operations. There are also general guidelines which apply to all services and cannot be identified exclusively with merely one or several service categories and are therefore listed under the title "General Application." We will consider guidelines for:

General Application

The Infantryman^{*}

The Engineer

The Chemical/Radiological Specialist

The Logistician

The Artilleryman

The Employment of Aviation and Antiaircraft Forces

The Armor and Antitank Forces

Signal Communications

Reconnaissance Forces

^{*} Includes airborne and helicopterborne forces.

In the following paragraphs guidelines are developed from a number of diverse Soviet sources. In many cases the guidelines apply equally to the tank commander, the battery commander or infantryman. In such cases, to facilitate each section standing on its own, the guideline is identified with a separate arm wherever possible. In some few cases the guidelines cited were not provided in the context of urban warfare in the original Russian text but are listed here because they are universal in application and are particularly relevant. Footnotes refer to references found in the last pages of this chapter.

1. Soviet Guidelines of General Application in Urban Warfare

These guidelines of general application to the Soviet soldier are divided into four categories:

Conduct of the Attack and Defense

Task Organization

Water Obstacles

Night Operations

The guidelines stress that in the attack, when Soviet forces are confronted with a town or city which cannot be bypassed, it is preferable that the city be taken under siege and that direct assault should be avoided. When assault of the city is required it is preferable to attack it from the march or move to capitalize on the speed and momentum of assault forces to carry them through the built up area as rapidly as possible. The guidelines acknowledge that the conduct of attack and defense of cities will change with many variable conditions and that the difference between nuclear and conventional combat is substantial. However, there is little elaboration found on this theme of disparity in various operations and little evidence of detailed planning or training for the conduct of operations in an urban nuclear environment.

There is emphasis upon the singular nature of urban warfare and the varying conditions which requires task organizing of units for the mission and conditions of combat. Water obstacles and night combat in cities were subjects which were found to be sufficiently important to warrant separate treatment. The emphasis on night operations is consistent with Soviet writings* on other forms of combat and reinforces the impression that Soviet tacticians are convinced of the necessity for operating during all conditions of visibility and on twenty-four hour cycles in both attack and defense.

a. Conduct of the Attack and Defense

Of course, it is most advantageous to envelop, surround, and blockade the enemy. However this is not always possible and podrazdeleniya** will have to resort to assaulting cities from the move. In this instance, according to the decision by the senior commander, assault detachments may be created which prepare for carrying out the mission ahead of time. (1)

If the enemy offers weak resistance the tank-borne motorized infantrymen approach the most important objectives at high speed and capture them on the move. (1)

The attackers capture a town by a surprise attack on the move or by the method of planned preparation. An attack on the move can be successful if the attackers inflict a decisive defeat on the enemy, destroying his manpower and materiel, and thus prevent him from organizing defenses. (1)

In present-day combined arms combat seizing a city or a part of it is accomplished, as a rule, by attack from the march or following envelopment of it. In those cases when this is impossible due to the situation, troops will revert to the attack from a position of direct contact with the enemy and conduct the attack simultaneously along different avenues of approach (or the city may be taken by storm). (3 p. 13)

* See, for example, Major L. Chyzankov, "Chevez Vodnuu Peregrady Noch'iu" (Across Water Obstacles at Night), Voennyi Vestnik, June 1971.

** A submit.

As a rule, an attack for the purpose of seizing a city from a position of direct contact with the enemy is used if an attack from the march has failed. In this case advance chast'* or podrazdeleniye, on approaching the city, blockade it from several different directions and by swift and decisive action seize the most important objectives on the edge of the city, thereby supporting the approach and formation of the main forces for the attack. (³ p. 14)

If an attack on the move has not been a success, the town is captured from a position of close contact with the enemy. The advanced subunits block the town from several directions. By vigorous and resolute actions they seize the most important objectives on the outskirts and ensure the approach and creation of the necessary groupings of manpower and equipment for an advance. (¹)

By vigorous and resolute actions through gaps in the enemy defences, advanced detachments, usually comprising a reinforced motorized infantry battalion, (in the attack) capture important objectives and main thoroughfares on the move and hold them till the arrival of the main forces. The latter, avoiding protracted fighting on the approaches to the town, exploit the success of the advanced subunits, envelop any stubbornly resisting strongpoints and defence centres, isolating them one from another. Then, depriving the enemy of the possibility to manoeuvre and withdraw to the heart of the town or outside its bounds, they destroy him and capture the assigned area of the town. (¹)

In those cases when a city is strongly fortified and attempts to seize it from the march fail, seizing the city is done by night or daytime assault with a simultaneous attack on the flanks and rear from a position of direct contact with the enemy. Under these conditions for the purpose of attack or assault attacking troops surround the city, seize salients along the edge, and occupy an initial position for attacking immediately in front of the forward edge of the defensive position in the city. (³ pp. 42-43)

An attack in a town is carried out without interruption until the opposite outskirts are reached or a link-up with own troops advancing in the opposite direction is effected. (¹)

* A unit.

As a rule, a combat mission in a city was organized less deeply than under ordinary conditions. (¹⁷ p. 123)

The main method of attack under conditions where nuclear weapons are employed is attack from the march. (³ p. 8)

The conditions under which an attack is organized and conducted for the purpose of seizing a city or part of it differ significantly from ordinary field conditions. In both cases the nature of the action depends upon whether nuclear weapons or only conventional weapons are used. (³ p. 8)

In organizing for combat, podrazdeleniye commanders carefully study the city on large-scale maps (or city maps), number blocks and individual objectives, analyze information on the character of enemy defenses and his fire system, and plot this on working maps. (⁵)

The following are necessary conditions for achieving success in an attack: thorough and concealed preparation of podrazdeleniye or assault groups to seize strongpoints located on the edge of the city; sudden and decisive action of podrazdeleniye in seizing them and swift development of the attack deep within the city; and rapid exploitation of the results of strikes delivered on decision of senior commanders and capable employment of weapons remaining at the disposal of podrazdeleniye commanders. (³ p. 43)

The advance must be uninterrupted. Having captured one objective subunits attack the next applying various methods of action: storm, turning movement, blocking. (¹)

For the purpose of seizing a city by attack from a march or encircling it podrazdeleniye may move out from an assembly area. In this case organization for combat is completed while podrazdeleniye are in the area. (³ p. 14)

Preparatory fires for the attack are delivered at the designated time. During this period sapper podrazdeleniye, under the cover of fire from artillery, mortars, tanks, and guns designated for firing by direct lay and also fire of motorized rifle podrazdeleniye, lay passages in enemy obstacles. However, in the interests of achieving suddenness of attack there may be no preparatory fires and this is characteristic of a night attack. In this case artillery will deliver fire for effect at the start of the attack. (³ p. 43)

An attack of the FEB is carried out simultaneously by reinforced subunits of the first echelons at the exactly appointed time. (1)

Having captured the strong points on the outskirts of the town, subunits advance along the streets from one objective to another using gardens, yards, breaches in walls and underground structures, systematically destroy the enemy, giving each other fire support, and penetrate into the depth. (1)

To approach the flanks and the rear of the next objective use is made of gaps in the enemy defence and dead ground: gaps in the walls of buildings, yards, gardens, roofs and underground passages. (1)

At the signal for the attack or assault motorized rifle podrazdeleniye, under cover of fire and smoke, will cross obstacles using the passages which have been laid, reach the buildings occupied by the enemy which are under attack, and enter them and destroy the enemy. At this time the fire from artillery, tanks, and guns designated for fire by direct lay, which is delivered over the heads and from the flanks of attacking podrazdeleniye, is intensified.

When the attacking podrazdeleniye approach the buildings artillery pieces and machineguns shift fire to the upper stories and attics, to adjacent buildings, and to the gaps between them. (1 p. 43)

In one case a strongpoint might be seized by assault and in another it might be advantageous to bypass it after blockading the defending enemy. Sometimes it will be advisable to wipe out the garrison of a strongpoint by demolishing it or setting fire to it. (1 p. 41)

When preparing to assault a block, the commander of the battalion pointed out the house, which were to be seized first of all and were to be used then as a base for taking the entire block. Usually, this was a building, the approaches to which were least subjected to the flank fire of the enemy. (1 p. 27)

Motorized rifle podrazdeleniye, on approaching a structure, block armored turrets and cover embrasures with bags filled with dirt. They occupy positions in front and to the sides of a structure in order to destroy the enemy in case he leaves a building, prevent the approach of enemy reserves from the rear, and repulse his counterattacks. (3 p. 44)

With successful development of the attack of our troops advance podrazdeleniye relentlessly pursue the retreating enemy, prevent an organized exit from the city, and, delivering simultaneous blows from different directions and using the gaps between his combat formations, break into the city, seize important objectives in it, and develop the attack in depth, supporting rapid capture of the city by the main forces. (3 p. 13)

Shortly thereafter, the combat order was received. From it I understood that our assault group, including a motorized-rifle platoon, a tank, a detachment of sappers and chemical scouts attack along the highway. Its task: in coordination with the neighboring assault group to seize an adjacent block of homes and factories. Subsequently, to advance to the opposite side of the populated point. An artillery battery supports the assault group.

The commander of the assault group to seize an adjacent block of homes and factories. Subsequently, to advance to the opposite side of the populated point. An artillery battery supports the assault group.

The commander of the assault group ordered me in the period of fire preparation, together with the neighboring crew, to destroy the enemy tank in the trench at the corner of building No. 2 and to crush the gun at the corner of building No. 1. Then, to attack along the street.

At the appointed time, blew up green rockets. Rolls of artillery cannonade shook the air. The outskirts of the populated point was covered with the smoke of explosions.

The sappers pushed ahead and under the cover of artillery fire gaps in the mine fields.

We also pushed our tank into position for firing by direct lay. I ordered Private V. Gomez to open fire, when had lifted the smoke of the explosions at building No. 2. Catching the right moment, he pushed the electronic trigger. The hit was accurate. The tank in the trench

"began to emit smoke."

Under the cover of the fire weapons, the motorized infantrymen moved into the created gaps. Combining movement with firing on the move, he advanced to the assault position.

Artillery at this time transferred into the defense depth of "the enemy". For some time our crew took intensive machinegun fire from the window of the upper stories of the building, securing the approaches of the assault groups.

As only the motorized infantrymen started "fighting" inside the building, we changed fire positions. Advancing, intensive gun and machinegun fire was taken. Covered by the corner of building No. 2, our tank opened fire on the window and doorway openings of house No. 3. Quickly, it was occupied by motorized infantrymen. The neighboring assault group attacked in series.

Buildings No. 5 and 6, as was presupposed, "the enemy" strongly fortified, and the approaches to them were exposed to artillery-machinegun fire. It was impossible to attack these strongpoints without the hope of suppressing "enemy" weapon emplacements. Artillerists opened fire. At the very same time from the underground structures of the sewage system, the commander sent an assault group into the rear of the "enemy" motorized infantrymen and sappers in order to destroy his weapon emplacement, hindering the advancement.

Combining fire and a strike from the rear, our assault group withdrew to arouse the confusion of the enemy. Taking advantage of it, he attacked the strongpoint at the front and took the first story of the building. The fire and dense smoke hampered observation and firing from the tank. I decided to change the firing position. But when we began to advance to building No. 6, then from behind the right corner of house No. 7, the "enemy" wheeled out a recoilless gun. The danger was first noticed by the motorized infantrymen of the neighboring assault group. They opened fire on the crew of the recoilless gun.

At this moment, we all in only a second relaxed the circular observation and because of this we almost paid (with our lives). The neighboring crew, which destroyed the target with the first shot, rescued (us).

Seizing the strongpoint, the motorized infantrymen began "fighting" on the approaches to the factory. Our crew supported them by fire. "Fighting" for the factory--building No. 10--was protracted; however weapons withdrew to crush "enemy" resistance by assault fire of all kinds. Under cover of a smoke-screen and the firing of artillery and tanks, the motorized-infantrymen infiltrated into the basement of the building.

With the loss of the factory the resistance of the defenders began to weaken. After some time, the assault groups knocked out the enemy of the remaining houses in the northeastern region of the city.

The "fighting" in the populated point was difficult. It demanded from each member of the crew skill, fortitude, resourcefulness, and psychological hardness. (3 p. 8)

The lay-out of a town, the character of its structures, the time of the day and climatic conditions considerably influence the organization and conduct of defensive operations. The commander takes account of all these peculiarities. (6)

The main distinguishing aspect of organizing coordination in defense of a city is that particular attention is devoted to coordinating the actions of small podrazdeleniye and sometimes even separate groups of soldiers when they maneuver by changing position and when they maneuver by fire. Battle in a city breaks down into a series of local and separate battles. Therefore every podrazdeleniye or garrison during the course of combat enjoys great tactical independence and their efforts must be directed toward carrying out the overall battalion mission in accordance with the concept for battle of the commander. (3 p. 65)

Defensive operations on the approaches to a town are carried out as in field conditions. First the enemy is attacked from the air, by artillery fire and counterattacks. At this time it is very important to determine the character of the enemy action, the direction in which his principal efforts are concentrated and the time at which he will pass over to the offensive. The commander employs all means of reconnaissance for this purpose. (6)

With the approach of the enemy to the outskirts of the town, the main aim of the fighting is to hold tactically advantageous stone buildings (structures), turned into strongpoints. (6)

With the beginning of the enemy artillery barrage and air attacks all the personnel of the strongpoints are in basements and other shelters. The crews of duty weapons and observers stay at their stations. Sometimes the subunits holding the defences take up their action stations on the order of the commander and prepare to repulse the enemy attack before the enemy opens fire, begins his attack or lifts fire. (6)

The success of a defensive battle depends to a great extent on the independent and courageous actions of small subunits reinforced with artillery, tanks and combat engineers. A town offers favourable conditions for the operations of small units: the enemy attacks in different directions separated from one another by fires, buildings and blocks. As a result there are usually open flanks and gaps in the enemy battle orders. This allows the defenders to deliver blows at the enemy and his flanks, to encircle and destroy him. (6)

The advancing enemy is destroyed at the approaches to a strongpoint by the use of all weapons in coordination with the neighbors and with artillery and mortar fire from covered positions, by air strikes and demolition of mined obstacles. If in separate areas the enemy manages to penetrate the defences and to capture several buildings or a strongpoint, the commanders of subunits stop him by well-organized fire. Artillery and mortar fire prevents the enemy reserves from being brought up and isolates the subunits which have penetrated the defences. (6)

Extensive use is made of ambushes along routes of probable enemy forward movement to deliver fire at his tanks and armored personnel carriers. Even individual soldiers armed with antitank hand grenades and antitank grenade launchers can inflict significant losses on enemy tanks and armored personnel carriers moving along city streets which hamper maneuver. (3 p. 54)

In repulsing the enemy attack the infantry should be cut off from the tanks and destroyed first since separate tanks or groups of tanks which break into the city without infantry can be rapidly destroyed by antitank weapons at short range. In this event the strength of the battalion defensive position will not be impaired. (5 p. 73)

The defenders achieve the complete rout of the enemy by daring and surprise counterattacks at his flank and rear. The subunits advance unnoticed to the deployment lines, mainly by underground passages and communication trenches. Because of the limited field of sight in a town and the complication of the situation in the area of the enemy penetration, a reconnaissance and security elements are sent out in front of the subunits advancing for the counterattack. The counterattacking subunits' fighting for buildings frequently assumes the nature of an assault. Therefore the second echelon subunits must be able to act as assault groups. (6)

A battalion or company commander can assign part of his forces to cover the flanks and repulse an enemy counterattack and also blockade individual buildings and use his main forces to develop the attack in the indicated direction.

Motorized rifle podrazdeleniye set up smoke screens to support rapid crossing of certain sectors.

Specially assigned podrazdeleniye or teams from the reserve check seized buildings and structures, seize men from remaining groups or individual soldiers left by the enemy, clear mines, and in case of need put out fire and consolidate the objectives seized. (7 p. 41)

The success of a counterattack depends to a great extent on the courageous and resolute actions of small subunits and separate groups of soldiers, on their skill to manoeuvre, to use point-blank fire, to use hand grenades, and courageously engage the enemy in hand-to-hand fighting. Buildings and structures cleared of the enemy are immediately checked for mines and consolidated by the subunits detailed for this purpose. (6)

When strong enemy forces penetrate a battalion defense position a counterattack may not be advisable. Under such conditions a battalion commander adopts all necessary measures to hold the enemy and strives to stop him primarily along that avenue where further forward movement by the enemy can lead to division of the battalion combat formation or to isolation from adjacent podrazdeleniye.

(encirclement). To hold the enemy he uses his reserve or second echelon which occupies previously prepared buildings and other structures or he adapts them for the defense during the course of combat and repulses further attempts by the enemy to move deep within the city.

When the counterattacks are launched by the next higher commander the battalion takes all possible measures to support the deployment of the advanced podrazdeleniye and the counterattack which they launch. The battalion attacks together with them using the second echelon or the reserve.

When threatened with encirclement the battalion commander regroups his podrazdeleniye as necessary. He uses his reserve or second echelon to create a perimeter defense and direct his main efforts toward destroying an enemy who threatens encirclement or isolation of the battalion from the rest of the chast'.

Combat in a city has an especially stubborn and fierce nature. Buildings or separate regions in a city may change hands several times. But in every case every defended building must be a fortress inaccessible to the enemy. The one who possesses the stronger moral qualities such as boldness, fortitude, endurance, and resourcefulness and knows procedures and methods for fighting in a city will be the victor. (³ p. 75)

b. Task Organization

Podrazdeleniye attacking in a city are separated by the buildings and other structures between them. A need arises to organize the control of small podrazdeleniye, from squad to company. (³ p. 37)

Under these conditions, the combat formation of an assault group may consist of the following elements: three attacking subgroups (according to the number of platoons (in a company), reinforced with heavy machine guns and ATGM; fire support subgroup (howitzer artillery, mortars, tanks); support subgroup (sappers, chemical specialists); a reserve rifle squad), or in its place a subgroup for consolidating success. The commander may assign one or two squads to give help to gun crews and drivers of APCs in preparing (clearing) routes of movement to the objective, as well as for covering tanks against tank destroyers. (³)

In the composition of the assault group was detailed from a platoon to a rifle company. They were reinforced by one to two detachments of medium machineguns, one to two detachments of flamethrowers, one to two platoons of artillery, a platoon of tanks or a self-propelled artillery unit. The assault groups were divided into subgroups: of seizure (assault), support (fire weapons), consolidation and reserve. In some groups, for example in the assault of Berlin and Budapest, were created subgroups for obstacle clearing, demolition (arson), and smoke screening. (15 p. 123)

For conducting battle in a city were created assault detachments, which, as a rule, were divided into assault groups, and the latter into subgroups (of seizure, support, and consolidation).

In the composition of the assault detachment was usually included a rifle battalion, reinforced regimental and division artillery units, mortars, tanks or self-propelled installations, large caliber machineguns, sapper subunits, and portable flamethrowers...

To the assault detachment was assigned the task of seizing a street or an individual block. It was, as a rule, divided into 3 to 6 assault groups, a support group, and a reserve. The assault group was the foundation of the detachment. Its composition and armament in each specific case was determined by the situation, the combat mission, and the character of the enemy's defense.

In the assault group was numbered from a platoon to a company of infantry, 1 to 2 detachments of medium machineguns, 1 to 2 D ShK machineguns, a detachment of antitank weapons, 3 to 4 guns of various caliber, 1 to 2 tanks or self-propelled installations, 1 to 2 detachments of sappers, 5 to 8 portable flamethrowers, and 2 to 3 chemists with smoke-screen and incendiary equipment. It was capable of destroying or setting fire to a building, demolishing the enemy inside of it, and capturing and holding the attacked objective.

A support group included an artillery unit, mortars, and heavy infantry gun. It was intended for hemming in the objective of the attack by fire, preventing the firing on the attack from neighboring buildings, repelling the enemy counterattacks, and securing the continuity of the offensive.

The reserve detachment (a platoon to a company with support means) was used for developing successes, repelling counter-attacks, supplementing or replacing active assault groups, blockading and destroying a surrounded enemy, as well as reinforcing captured buildings, and other objectives.

A seizure subgroup is used for the direct attack of a building and the destruction, in close connection with neighboring subgroups, of the manpower and fire weapons of the enemy.

It consists of 1 to 2 detachments.

A support subgroup during the attack prevents firing on the flanks of the attackers from neighboring homes and, by firing at windows, entrances, doors, and garrets, destroyed the fire weapons of the defenders. After this, it protects artillerymen, tankists, sappers, and flame-throwers from the attack of the enemy's automatic gunners, and eliminates enemy observers.

As soon as the seizure subgroup seizes an objective, the support subgroup immediately prepared for supporting an attack on the next building.

The consolidation subgroup, following after the seizure subgroup, cleared the captured objective of the remaining soldiers and officers of the enemy, secured it, and prepared it for defense, guarded the flanks, and coordinated its fire for the development of the attack. (14 p. 27)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS [protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile], one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. Such an assault group will be able to create fire superiority over an enemy reinforced platoon usually defending a large building, which will allow it to accomplish the assigned mission after fire preparation and air strikes and develop the attack without stopping. (5)

Assault detachments and groups are created for the capture of strongly fortified buildings, strongpoints, and centers of resistance. To the detachment is ordinarily detailed a motorized-rifle battalion, reinforced by tanks, guns of various calibers, and subunits of engineer and chemical troops. In it, assault groups are formed consisting of a reinforced motorized-rifle company or a platoon each. Personnel are provided with an increased number of hand

grenades, cartridges, and smoke weapons, as well as the necessary devices for assaulting buildings—ladders, ropes, boat hooks, grapnels, etc. Tanks, guns, and subunits of special troops operate directly in the combat formations of the motorized-rifle subunits. (7 p. 37)

A motorized rifle battalion assigned as an assault detachment is reinforced with artillery, tanks, and sappers. It is committed to combat on the outskirts or right within the city for assaulting heavily fortified buildings. Depending on the number of objectives being attacked and the degree of enemy resistance, assault groups (up to a reinforced motorized rifle company in strength) are formed within the assault detachment. A portion of the podrazdeleniya is assigned to the reserve. (5)

A battalion acting in the first echelon on a main avenue of approach may receive for reinforcement an artillery battalion, a tank company or a battery of SAU (self-propelled artillery pieces), and a company of sappers and may be supported by the fire of an artillery battalion.

A battalion acting as an assault detachment can receive more sapper podrazdeleniye than indicated above and the artillery in support of its attack will be stronger.

A motorized rifle company can receive for reinforcement a tank platoon, an artillery battery, and a sapper platoon. (1 p. 17)

The subunits detailed to defend strong points and centers of resistance are trained to fight independently and in encirclement. Therefore they are reinforced with artillery, tanks, self-propelled guns and subunits of combat engineers. (6)

c. Water Obstacles

During an attack in a town subunits often have to negotiate water obstacles. The assault crossing of rivers and canals has its peculiarities. The availability of buildings on the bank already captured by the attacking subunits allows the assault positions to be located 100-150 m nearer the east-off line and ensures cover from enemy fire. A large quantity of improvised materials and means, utilization of bridges, barges, river trams and steamboats allow the subunits to speed up the assault crossing of a water barrier.

At the same time high and steep banks, faced with stone or concrete, with a limited number of approaches and exits,

as well as the utilization by the enemy of high buildings for delivering a multitier fire, hamper the assault crossing. Proximity of the enemy FERA (50-60 m from the bank) excludes any possibility of concentrating subunits for the attack after landing on the opposite bank. More often than not an attack is carried out by small groups immediately after negotiating the water barrier.

Fighting for a bridgehead in a town means, first of all, storming the enemy in buildings (structures) adjoining the embankment. After capturing these buildings and consolidating the troops set about launching bridges for the crossing of the main forces.

Wide canals and rivers flowing through a city may prove to be serious obstacles for attacking troops. To force them successfully from the march podrazdeleniye reinforced with sappers and diver-scouts are sent out ahead of time to support successful forcing of them from the march. These podrazdeleniye have the mission of determining whether the enemy occupies the far bank, whether the obstacle is mined on the banks and in the water, the nature of the banks and the bottom, and the existence of crossings and fords. Furthermore, provisions are made for sending out podrazdeleniye (depending on the importance of the water obstacles) to seize existing bridges and crossings and secure them until the approach of the attacking podrazdeleniye. These podrazdeleniye, without joining with the enemy in combat and using underground structures, reach the indicated objectives, hold them, and support crossing of the water obstacles by the attacking podrazdeleniye.

If bridges, dams, and other structures on water obstacles are not seized or prove to be destroyed by the enemy and if bridge-carrying tanks cannot be used, attacking podrazdeleniye are obliged to force the water obstacles. This entails a great amount of engineer work to make entries and exits at the water's edge for equipment since, as a rule, the banks of canals or rivers in a city are steep and made of concrete. To support this work advance motorized rifle podrazdeleniye, in forcing a water obstacle by using means found at hand, will have to seize objectives on the far bank. (3 p. 41)

The banks of rivers and canals in cities are, as a rule, lined with stone and concrete. With the help of hydro-technical facilities, the enemy can quickly change the level of the water, increase the speed of the flow, and thus create additional difficulties for managing crossings. Therefore, advancing in a city, it is necessary to try to capture existing bridges very rapidly. As experience

shows, it is advisable to create also special detachments or groups, having included in it tank, motorized-rifle, and engineering-sapper subunits for this purpose. (¹⁰ p. 60)

In the course of an offensive in a city, it is often necessary to cross water obstacles. Best of all this is to be done with a rush--by the surprise capture of bridges, crossings, fords, and various hydrotechnical structures.

The forcing of a water obstacle in a city, on the one hand, is facilitated since it is possible to approach the bank under cover and there are improvised means and construction material. On the other hand, it is hindered by sheer banks, which are usually faced with stone or concrete, as well as by a limited number of approaches (exits) and closeness to the enemy. (⁷ p. 39)

d. Night Operations

Combat in a city does not cease at night. Before nightfall commanders clarify the missions assigned their podrazdeleniye; appoint guides, azimuth men, and base soldiers and podrazdeleniye; provide them with illuminating devices, prepare illumination and also blinding of enemy objectives; and prescribe exactly methods to be used for warning and target designation. (¹ p. 42)

With the coming of darkness, some of the observation posts transfer from the upper storeys of the building to the lower storey and the basement, since the destroyed structures, public gardens, and city streets are better seen against the background of the sky. (¹¹ p. 24)

The system of fire must be capable of carrying out all the missions even in the event the enemy attacks at night or under other conditions of limited visibility and therefore weapons must be prepared for delivering fire under these conditions. (¹ pp. 51-52)

The battalion occupies the initial position for attack in accordance with the decision of the regimental commander during the night or under other conditions of limited visibility and while observing camouflage measures. (¹ p. 43)

Preparatory fires for the attack are delivered at the designated time. During this period sapper podrazdeleniye, under the cover of fire from artillery, mortars, tanks, and guns designated for firing by direct lay and also fire of motorized rifle podrazdeleniye, lay passages in the obstacles. However, in the interests of achieving suddenness of attack there may be no preparatory fires and this is characteristic of a night attack. In this case artillery will deliver fire for effect at the start of the attack. (¹ p. 43)

2. Soviet Guidelines for the Infantryman in Urban Warfare

As one would anticipate, the infantryman is the basic element in Soviet tactical doctrine for city fighting. In some cases the guidelines refer to motorized or mechanized infantry, in others to the infantryman on foot. The distinction is, in all cases, obvious within the text. The guidelines which follow are directed to the infantry commander as well as the individual soldier and, again, the distinction is apparent in the text. For convenience this infantry section is broken down into the following categories:

Missions, Objectives and Sectors
Formations and Positions
Maneuver
Arms and Equipment

Fire Techniques
House and Street Fighting
Pursuit
Consolidation

Soviet writers on tactics consistently maintain that sectors of operations assigned to tactical units in urban warfare in both offense and defense are considerably less than under other conditions where visibility and the unobstructed range of direct fire weapons are greater. In the assault a preferred formation for taking a city "by storm" is the tank platoon wedge with a squad of motorized infantry following behind each tank. The defense is organized by the infantryman around strongpoints in selected buildings which are extensively fortified. Tactical airborne, to include helicopter, assaults are favored for operations deep in the enemy rear. Underground passages are recommended for the covered maneuver of both offensive and defensive forces. The Soviets list individual automatic weapons and grenades as having special significance for urban warfare and indicate that the infantryman's combat load for such ammunition will be increased for city fighting. There are consistent references to control and coordination of small arms, artillery and direct fire weapons and interlocking bands of multilevel, concentrated fire are sought from defensive positions to maximize the density of fire. Barricades and obstacles are covered by fire and special attention is devoted to antitank firing techniques and tank ambushes.

The infantryman is instructed that fighting in buildings and streets requires special techniques which are characterized by violent action at close hand to hand quarters where small units have the initiative. Wall breachings are made using the services of the sappers with their explosive charges and employing direct fire weapons. There are references to the preference for attacking buildings from the upper stories first and concentrating on staircases, entrances and exits.

A. Missions, Objectives and Sectors

One distinguishing aspect of an attack in a city is that podrazdeleniye are assigned missions to seize objectives in the city and not line. (3 p. 17)

In illustrating a tactical example of an attack (in a city) the authors recommend designating in the battalion special "groups for creating panic," sending them for this purpose to the enemy rear. It is hardly possible to agree with this. Indeed, creating panic is not a special but a concomitant mission and it may, and even must, be carried out by all podrazdeleniye which reach the enemy rear in order to destroy or seize one objective or another. (4)

The motorized rifle battalion and company, the combat capabilities of which have strongly increased, are capable of using one combat formation to handle missions to a greater depth than during the past war. (5)

The frontage of the offensive in a town is considerably less than under usual conditions and reaches 600 m for a battalion and 300 m for a company. (6)

A motorized-rifle platoon can attack along one street on both sides or assault an individual objective (a building, a structure). A company ordinarily attacks along one or two streets or receive the task to seize a large industrial structure (administrative building), and a battalion--on several parallel streets, including 2 to 4 city blocks. (7 p. 37)

The enemy objectives, depending on the size of buildings and the degree of contact of the defenders, are attacked by a reinforced platoon, company or battalion. Provision is made beforehand for special groups to destroy and block fortified structures. (1)

The immediate task of a battalion is to destroy the enemy manpower and fire weapons located within the bounds of one or two blocks, or to capture one big structure. Subsequently a battalion captures important objectives in the depth of enemy defences. (1)

The immediate mission of a battalion may be to destroy enemy personnel and weapons located in one or two blocks or to seize a single large structure. Then the battalion may develop the attack for the purpose of seizing important objectives deep within the enemy's defensive position.

If a nuclear weapon is used on a battalion's route of action, the battalion's immediate mission may be greater. It may amount to destroying enemy personnel and weapons and seizing several blocks and then developing the attack for the purpose of reaching main arteries or the center of the city. (3 p. 17)

The front of a battalion attack in a city and the depth of a combat mission depend on conditions of attack, the nature of the city and the way it is built, the existence of obstacles, the nature of fortifications prepared on the edge of the city and within it, the degree to which the opposing enemy is suppressed by fire, and the composition of the battalion.

The width of the front of an attack in a city will be much less than in the case of an attack under ordinary field conditions. In view of the fact that the width of a city block is about 200--400 m and a battalion usually attacks along several parallel streets, the front of an attack may be 400--600 m or more. For a motorized rifle company attacking, as a rule, along one street the width of front of attack will be 200--300 m. (3 p. 16)

The role a battalion plays in an attack is determined by the combat mission it is carrying out and its place in the combat formation of the regiment.

The most difficult mission is carried out by a battalion operating in the first echelon or on a main avenue of approach. In an attack launched for the purpose of seizing a city by attack from the march its mission is, by exploiting the results of the actions of the advance detachment, advance guard, tactical air assault force, or enveloping detachment and air strikes and artillery fire and in conjunction with adjacent podrazdeleniye, to destroy the podrazdeleniye covering the approaches to the city, enter the city, inflict losses on the opposing enemy, and thereby create favorable conditions for seizing the city or part of it. (3 p. 15)

An important role is allotted to tactical airborne troops, which are employed for the purpose of denying the enemy the opportunity to close gaps and intervals in combat formations, to seize and hold important objectives (squares, boulevards, public gardens, major crossroads, stations, bases, warehouses, etc.) and means of nuclear attack, and to disrupt the control of troops. Their composition in each specific case is different, but most often it is a motorized-rifle company or platoon. (7 p. 37)

Thus the assault group of the battalion first echelon can capture a fortified block. To seize one or two more objectives (blocks) in the depth of a city, the battalion commander commits the second echelon. (2)

The frontage and depth of defence areas in a town are determined by the combat mission, the availability of friendly manpower and equipment and the opposing enemy forces, as well as by the lay-out of the town and the strength of its buildings and structures. In a town the field of sight and bombardment are limited, manoeuvring is more difficult and cooperation between subunits and troop control are complicated. That is why the frontage and depth of defences will, naturally, be less than in field conditions. (6)

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In addition to carrying out its main mission which is to intensify the force of the blow struck by the first echelon, a battalion in the second echelon must be ready to repulse enemy counterattacks, replace podrazdeleniye which have lost their combat capability, or act in capacity of enveloping detachment.

A battalion in reserve must be ready to carry out missions arising suddenly during the course of battle and also several of the missions assigned to a battalion in the second echelon. (³ p. 15)

Usually a motorized rifle battalion defends several blocks in a city. (³ p. 51)

A motorized rifle battalion assigned as an assault detachment is reinforced with artillery, tanks, and sappers. It is committed to combat on the outskirts or right within the city for assaulting heavily fortified buildings. Depending on the number of objectives being attacked and the degree of enemy resistance, assault groups (up to a reinforced motorized rifle company in strength) are formed within the assault detachment. A portion of the podrazdeleniya is assigned to the reserve. (³)

A company may defend several buildings prepared for perimeter defense and tied in by fire. A platoon defends one or two buildings within a company strongpoint. In some cases one large building may be defended by a company and in this case a platoon may defend part of the building or one floor. (³ pp. 51-52)

Today a motorized infantry company usually defends a strongpoint. It includes one or several buildings, one or two blocks and is a component part of a battalion centre of resistance. The battalion centre of resistance consists of two or three strongpoints. Fire coordination is established between them, communication trenches are organized and ambushes are laid in the gaps and on the flanks. (⁶)

b. Formations and Positions

Motorized rifle podrazdeleniye reinforced by tanks, sappers, and artillery, using the results of nuclear

strikes, air strikes, and artillery fire, deploy step-by-step into the approach march and then into combat formation in order to go into the attack. (1 p. 40)

A battalion's battle formation consists of company battle formations with reinforcing means and the fire weapons at the direct disposal of the battalion CO. It is drawn up in single echelon formation. During an offensive in a big town a battalion can assume two-echelon battle formation. In order that each subunit may possess complete tactical independence guns, tanks and combat engineers are attached to it. (2)

An advance detachment can also be formed by a reinforced motorized rifle battalion. By swift, daring, and decisive action and using air strikes it is able to seize two or three blocks and hold them securely until the approach of the main forces. (3 p. 13)

For an offensive in a city, it is recommended to have deeper combat formations, since the defense is stronger here than under field conditions. Moreover, unoccupied or poorly defended sectors may be detected which should be utilized for the development of success by the commitment to action of fresh forces from the depth. The deep echeloning of combat formations is also provoked by the continuity of the conduct of combat activity day and night, and by the necessity to destroy separate groups of the enemy left in the rear of the attackers, to secure captured buildings, and to replace subunits which have suffered great losses. (7 p. 37)

When advancing in a town command and observation posts are located nearer the subunits attacking the most important objectives. (1)

The KNP (komandirskiy nablyudatel'nyy punkt; commander's observation post) of the assault group commander is situated in the immediate vicinity of the motorized rifle podrazdeleniya and so that it is easy to see from there all the terrain ahead, the attack objectives, and buildings adjacent to it. Trenches, bunkers, and semibasements are good for these purposes. The control post of the artillery battery commander is best placed with the KNP of the motorized rifle company commander, which increases efficiency of control of podrazdeleniya. (2)

The attached tanks usually operate in motorized infantry battle formations and, firing on the move, destroy the enemy fire weapons. (1)

Tank podrazdeleniye, as a rule, are attached to motorized rifle companies and platoons and operate in their combat formations. They fire by direct lay to clear the path for motorized rifle podrazdeleniye. They can be included in assault groups and groups for destroying nuclear charges. Usually the platoon is the least subdivision of tank podrazdeleniye. However, the possibility of separate tanks acting with motorized rifle platoons and squads cannot be precluded. Experience gained in battle shows during the course of an attack in a city a sound tactic is to employ a tank platoon wedge formation wherein one tank or SAU moves down the center of a street and other tanks or SAU move behind it at some distance on the right or left side of the street, providing mutual fire support. A squad of a motorized rifle platoon moves behind each tank, protected by the armor. In this case tanks, covering one another by fire, can successfully hit weapons in strong placements, remove barricades and rubble, and destroy enemy tanks and armor personnel carriers. Motorized riflemen can effectively combat enemy close-combat weapons and thereby support the tanks in successfully carrying out a mission. (2 pp. 19-20)

A battalion acting in the first echelon on a main avenue of approach may receive for reinforcement an artillery battalion, a tank company or a battery of SAU (self-propelled artillery pieces), and a company of sappers and may be supported by the fire of an artillery battalion.

A battalion acting as an assault detachment can receive more sapper podrazdeleniye than indicated above and the artillery in support of its attack will be stronger.

A motorized rifle company can receive for reinforcement a tank platoon, an artillery battery, and a sapper platoon. (3 p. 17)

Depending on the nature of the enemy defense and the assigned mission, and also if the commander has not succeeded in sufficiently exposing the disposition of enemy strongpoints, particularly in the depth of the city, the combat formation of a reinforced motorized rifle battalion can be formed into two and sometimes

three echelons. The second echelon completes the destruction of the enemy, consolidates the success of the first echelon, and repulses possible counterattacks from the flank and rear. (5)

A battalion defensive position includes the combat formations of podrazdeleniye and the battalion defensive position, the system of fire, and fortifications of the defensive area.

A battalion defensive area consists of the following elements: company strongpoints prepared for perimeter defense constituting the basis of the battalion defensive positions; strongpoint of the reserve; locations for preparing ambushes; firing positions of mortars, artillery, and antitank weapons left in the hands of the battalion commander; and places prepared as control points for the battalion and its rear service podrazdeleniye. Furthermore, in a defensive area dummy strongpoints and podrazdeleniye positions for securing and defending entrances and exits of underground structures and routes of communication may be prepared. Sometimes combat security positions are prepared in front of the defensive position of a battalion in the first echelon. (3 p. 51)

When selecting a building for a strongpoint one takes into consideration, first of all, its fitness for carrying out all-round observation and fire. Multitier fire is organized. The bulk of fire weapons are sited in the lower stories and basements. Wooden buildings which hamper fire are torn down. It is advisable to use as strongpoints buildings located at crossroads and in squares. The number of personnel for a strongpoint is determined by the significance of the defended objective and the availability of manpower and equipment. The experience of the Great Patriotic War (1941-45) shows that a reinforced infantry company was detailed for the defence of a four- or five-story building or several two- or three-story buildings located along the 200-600 m frontage and 200-400 m in depth. (6)

From the very first day the "Home of Pavlov" was prepared for perimeter defense. All approaches to the building were gradually mined and antitank and anti-personnel minefields were prepared around the building. In some sectors land mines were put out. A communication trench was dug to the rear for the purpose of

delivering ammunition, food, and water to the garrison. A trench was dug in the rear of the building to give personnel protection against enemy artillery fire. Furthermore, a drain pipe passing to the rear of the building was adapted for the same purpose and two communication trenches were dug to it. Soldiers occupying a defensive position on the first and upper stories of the building, during strong artillery fire, used these routes to take cover in the drain pipe. Soldiers defending semibasement areas, during artillery fire, remained in place at their weapons. Good fortification helped our courageous fighting men hold the building for 58 days, until the day our troops reverted to the attack for the purpose of destroying the enemy forces at Stalingrad. (³ p. 70)

Strongpoints, organized in the first place in reinforced concrete and stone buildings, form the basis of defence in a town. Prepared for all-round defence, the strongpoints are connected with each other by communication trenches. (⁶)

In defense of a city combat security is set out by a battalion in the first echelon when reverting to the defense and when not in contact with the enemy and when in direct contact with him combat security may be set out only on those avenues of approach where the distance between the forward edge of the defensive position and the enemy is greater than 1000 m. (³ p. 68)

Buildings and other structures in the gaps between strongpoints are prepared for blasting, mined obstacles are prepared, log obstacles and barricades are set up, and provisions are made for flanking and interlocking fire of all types to cover the flanks and the gaps between strongpoints. (³ p. 55)

Podrazdeleniye control points can best be located in strong basements and on the lower floors of buildings and they should be equipped to provide antinuclear and antichemical protection. Observation posts are established on the upper floors and on roofs.

Podrazdeleniye commanders are given orienting and large-scale maps or plans of the city. (³ p. 55)

The battalion command-observation post is located close to company combat formations. Based on experience gained in the war it is often 200--300 m from the companies of the first echelon. (³ p. 38)

The stability of a defensive position in a city is greatly enhanced by fortifications. All kinds of buildings and underground structures and basements are prepared and fortified as shelters which provide protection against nuclear and other weapons. Buildings are adapted for the defense, windows and doors are filled in with bricks and sandbags, firing embrasures are made, holes are made and routes prepared in attics and between floors for maneuver and interaction among podrazdeleniye. (³ p. 54)

Not all buildings are used for the defensive positions of a company or platoon but only the more solid ones which are located at intersections of main arteries and at the entrances to squares, parks, bridges, and other important sites. Buildings are selected for strongpoints in light of the possibility of conducting observation and fire from them and the possibility of protecting personnel against weapons of mass destruction. Wooden structures and also buildings which hinder fields of fire are removed where possible. (³ pp. 51-52)

Masonry and reinforced concrete buildings designated for defense are prepared for all-around defense. Door and window openings in the buildings which are not designated for use are filled in solid with brick or sandbags. Embrasures for firing submachineguns, machineguns, grenade launchers, and other weapons and viewing slits for observation are prepared with perimeter defense of the building in mind. Stairwells are barricaded, mined, or destroyed. Hatches are made through ceilings and ladders are made. Corridors within buildings are barricaded and prepared for small arms fire. To decrease losses from shell fragments which get inside buildings, partitions made from bricks sandbags, or other material must be made between embrasures and viewing slits.

Communication routes are prepared between strongpoints and defended buildings for which purpose use is first made of underground structures (tunnels, subways, water mains, etc.), and when these do not exist trenches are dug, the most important sectors of which

are covered to protect them when buildings around them are destroyed.

In those cases when there are no strong underground structures or basement areas which might be used to protect personnel against nuclear weapons, shelters are dug in the ground away from defended buildings in order to keep them from becoming covered with rubble.

In preparing basement areas which are used for shelters for protection against fire and to diminish the dose of penetrating radiation, the floor of the first story is sprinkled with dirt to a thickness of 20--40 cm. Shelters are built so that they will be under the ruins of the upper stories following a nuclear blast. The main entrance is usually made near a stairwell and existing underground routes of communication between basement areas are used as alternate entrances.

The gaps between strongpoints, streets, squares, and parks are filled with mined and other obstacles and covered by fire. In a city all types of obstacles can be used in conjunction with explosives or without them: antitank and antipersonnel mines, delayed action mines, fragmentation-barrier mines, barricades, anti-tank steel hedgehogs and turnstiles, reinforced concrete posts, tetrahedra, and also barbed wire obstacles.

Bridges over rivers and canals and also underground structures running from the direction of the enemy (tunnels, subways, drainage ditches) are prepared for demolition. As a rule, they are blasted when the enemy threatens to seize them. Some buildings should be prepared for reduction to rubble for the purpose of blocking streets in case of need. (³ pp. 69-70)

It is most advantageous to select positions for weapons as close as possible to the attack objective, and to place machineguns, grenade launchers, and ATGM in semi-basements and lower stories, and in windows or embrasures of buildings adjacent to the attack objective. As a rule, snipers and observers are situated in upper stories, in attics, and on roofs of buildings. Firing positions for mortars are assigned in courtyards, gardens, building attics, and behind fences, and for attached and supporting artillery--in gardens, parks, and behind shelter on squares and in streets. In this case the crews can fire not only from indirect laying positions, but by direct laying as well. Before the attack begins, APCs are placed under cover, with their machinegunners ready to support the attack of the podrazdeleniya. (⁵)

Camouflage in a city is greatly facilitated by the closed nature of the terrain and does not require great expenditure of camouflage means. It is achieved by the location of personnel and weapons in buildings, and window and door openings, by the creation of dummy defensive locations in blocks and in buildings not defended by podrazdeleniye, by observing sound and light discipline, by extensive use of smoke agents, and by excluding the local populace from the defensive area. A battalion commander provides for all these measures in organizing a defensive position and fortifying it. (3 p. 70)

To facilitate fire fighting all inflammable objects are removed from buildings, wooden floors are sprinkled with sand, and water supplies are established in case the municipal water supply system is put out of operation. Windows and other openings in buildings are covered with grills or fire-resistant plates so that the enemy will be unable to throw incendiaries through them. The entrances into dugouts and basement and semibasement areas are covered with brick thresholds 15-20cm thick for the purpose of preventing spread into these areas of napalm, pyrogel, and other incendiary mixtures. Fire lanes not less than 50-70 m wide are prepared on the streets for the purpose of preventing the spread of fires over the city. (3 p. 55)

Ambushes are prepared in addition to combat security on some avenues of approach for immediate security and for preventing sudden enemy attack. Within a city patrols are organized for streets, squares, and parks. An extensive network of observers is established and at night listening posts are used. (3 p. 68)

c. Maneuver

In those cases when the enemy offers weak resistance along a street, tanks with infantry mounted on them or infantry in armored personnel carriers and trucks move along the street at a great speed, delivering fire on the move. They reach important objectives in this way and seize them from the march.

An attack in a town is carried out without interruption until the opposite outskirts are reached or a link-up with own troops advancing in the opposite direction is effected. (¹ p. 12)

If the enemy offers weak resistance the tank-borne motorized infantrymen approach the most important objectives at high speed and capture them on the move. (¹)

An attack from the march directly against a city begins after seizing the nearest outer trace of the city.

With successful development of the attack battalions in the first echelon, pursuing a retreating enemy along parallel routes, strive to prevent him from leaving the city and they attack indicated objectives from the march as they approach the enemy. (³ p. 38)

Tanks usually advance together with motorized rifle podrazdeleniye in their formations and, delivering fire on the move, destroy enemy weapons hindering forward movement of the infantry. (³ p. 40)

For the purpose of assisting advance chast' in rapid seizure of a city and important objectives along the routes leading from the city to the rear, extensive use will be made of tactical airborne assaults up to a reinforced motorized rifle battalion in strength dropped in the enemy rear by helicopter. (³ p. 13)

Having captured one objective, the subunits ceaselessly develop the offensive into the depth and those specifically chosen check captured buildings and defensive structures, clear them of the remaining small groups and individual soldiers, carry out mine field clearance and where necessary put out fires.

Objectives in the depth of the city are attacked as a measure of the approach of the attackers. Their disposition and the nature of the defense exclude the possibility for simultaneous attack. Therefore, commanders of the subunits must constantly and continuously conduct reconnaissance, quickly assign additional tasks to subordinates, coordinate their activities among themselves, and with attacked and supporting subunits, and employ maneuvers for the purpose of intensifying the efforts in the directions of marked success. First of all, it is necessary to try to seize the main strongpoints and focal points on the

main roads of the city, centers of communication, bridges, overbridges, railway stations, subway stations. For this, it is recommended to use tactical airborne troops in helicopters. The landing of the subunits should be accomplished under the cover of darkness and smoke, and supported by the fire of artillery and air support. They may be landed in squares, broad streets, public gardens, parks, flat roofs of houses, and using suspension ladders. (7 p. 38)

In large squares where several streets converge, the attack is carried out by the forces of several subunits. Commanders try to ensure that they simultaneously approach the centre of the square from different streets. The corner buildings are the first to be stormed. (1)

For the subunits' manoeuvre in a town passages and thoroughfares are organized inside the blocks. Underground passages are also adapted for this purpose. (6)

Smoke agents are used to conceal the maneuver of men and weapons between strongpoints, defensive areas, and separate buildings not having concealed or underground routes between them and also to prevent the enemy from observing and conducting aimed fire. (3 p. 57)

After seizing strongpoints on the edge of the city and developing the attack, podrazdeleniye move forward along streets from one objective to another, using gardens, yards, gaps in walls, and underground structures. They destroy step-by-step the defending enemy while supporting one another by fire as they penetrate his position. (3 p. 40)

Between strongpoints fire is coordinated, communication trenches are prepared, and ambushes are set up in the gaps between strongpoints and on the flanks. Tunnels, subways, drain pipes, and other underground structures and routes of communication are used for maneuver by men and weapons in a battalion defensive area and on its flanks and foot and vehicle passages are prepared within blocks. (3 p. 52)

During the course of an attack motorized rifle podrazdeleniye, moving on both sides of streets and keeping close to buildings, deliver fire from small arms at the windows of buildings located on the opposite side. Weapons assigned to fire by direct lay

move behind the motorized rifle podrazdeleniye and the tanks, from covered position to covered position. Delivering fire along the streets, they hit targets hindering the forward movement of the infantry and tanks. (1 p. 40)

For advancing from one objective to another, the subunits use gardens, kitchen gardens, parks, holes in walls, underground structures, as well as narrow streets. In the latter case, advancing along both of its sides they fire at the windows and loopholes on the opposite side. Machineguns and guns advance from one shelter to another. Using the gaps between strongpoints and underground structures, the troops employ close and deep envelopment for coming out in the flank and rear. Any penetration into the depth must be utilized for the rapid development of the success by the commitment into battle of the second echelons or reserves. (7 p. 38)

Tanks equipped with antimine drags act together with sappers and lay passages in enemy mined obstacles. Motorized rifle and sapper podrazdeleniye designated for immediate assault move behind them. The tanks, delivering fire at embrasures or windows of a structure under attack, approach it and cover the attacking motorized riflemen and sappers with their fire and armor. (3 pp. 43-44)

The motorized infantry and tanks, moving from cover to cover, are followed by guns detailed for direct fire. Firing along the streets, they destroy any targets which hinder the advance of the infantry and tanks. (1)

As the attacking podrazdeleniye reach the artillery safety line, fire is shifted to the rear of the enemy position. After approaching to within hand grenade range, motorized rifle podrazdeleniye, throwing hand grenades at the enemy, attack objectives on the forward edge. At this time artillery and aviation destroy the enemy located deep within the city and some of the artillery delivers covering fire against enemy artillery and mortar batteries and control points. (3 p. 40)

To handle missions which unexpectedly arise, the battalion commander and even the company commander can assign up to a rifle platoon or squad respectively as a reserve. (5)

To develop the attack deep within a city battalion commanders will commit their second echelons or reserves. As a rule, they will be committed with the permission of the next higher commander after the battalion has carried out its immediate mission. However, the situation may force a battalion commander to commit his second echelon earlier. Most frequently this will be when the enemy offers stubborn resistance. Underground structures and gaps through buildings will be used as a covered approach for the second echelon to reach the line of departure. One distinguishing aspect of reaching the line of departure under the conditions prevailing in the city is that second echelons or reserves will most frequently move in small podrazdeleniye and even by separate groups. The line for entry into combat is usually selected so that a second echelon will be committed around a battalion flank or in the gaps between companies or assault groups. However, the possibility cannot be precluded that entry into combat will be by leap-frogging through the combat formations of attacking units. This is advantageous in those cases when companies in the first echelon have suffered great losses or if buildings do not permit deploying the podrazdeleniye of the second echelon. (3 p. 42)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS (protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile), one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. Such an assault group will be able to create fire superiority over an enemy reinforced platoon usually defending a large building, which will allow it to accomplish the assigned mission after fire preparation and air strikes and develop the attack without stopping. (5)

d. Arms and Equipment

In distinction from an attack under ordinary conditions podrazdeleniye in combat in a city are given additional hand and antitank grenades, cartridges, shells, smoke

charges, signalling equipment, and gear for assaulting buildings. Furthermore, sapper podrazdeleniye are provided with additional explosives, elongated charges, and antitank and antipersonnel mines. (³ p. 17)

Combat action in a city, as a rule, is conducted at close range and therefore the weapons of motorized rifle podrazdeleniye, such as machineguns, submachineguns, grenade launchers, and hand grenades will play an important role in inflicting damage on the enemy. In a city where maneuver and fire of tanks are limited, a large role will be played by manually operated anti-tank grenade launchers, hand grenades, and recoilless guns in the fight against enemy tanks. (³ p. 56)

In our opinion, two or three obstacle-clearing groups included in the sapper squad on the armored personnel carrier, one or two tanks with BTY and KMT-5s equipped with ropes with grapnels are necessary. It is necessary for sappers to have with them 400 to 500 kg of explosives, 20 to 30 components of distributed charges and several cumulative charges, mine searchers, probes, detonating means, and wooden mallets for tapping walls in order to discover chambers with explosive charges. If there are many narrow canals in the city, it would be advisable to include in these groups a bridge layer.

The obstacle-clearing groups should follow directly behind the companies of the first echelon, and, when obstacles are met, they are moved forward under cover of fire to make gaps. (¹⁰ p. 95)

Assault detachments and groups are created for the capture of strongly fortified buildings, strongpoints, and centers of resistance. To the detachment is ordinarily detailed a motorized-rifle battalion, reinforced by tanks, guns of various calibers, and subunits of engineer and chemical troops. In it, assault groups are formed consisting of a reinforced motorized-rifle company or a platoon each. Personnel are provided with an increased number of hand grenades, cartridges, and smoke weapons, as well as the necessary devices for assaulting buildings--ladders, ropes, boat hooks, grapnels, etc. Tanks, guns, and subunits of special troops operate directly in the combat formations of the motorized-rifle subunits. (⁷ p. 37)

General Major Babushkin stresses that flame throwers:

1. can kill many soldiers held up in strongly fortified buildings
2. are especially useful at night
3. can have great psychological value by striking fear into soldiers when used unexpectedly
4. are to be used in conjunction with other arms. (12)

When podrazdeleniye approach objectives under attack guns and tanks on signal of the battalion or company commander shift fire to the upper floors and to adjacent buildings and prevent the approach of enemy reserves. (3 p. 40)

At the signal for the attack or assault motorized rifle podrazdeleniye, under cover of fire and smoke, will cross obstacles using the passages which have been laid, reach the buildings occupied by the enemy which are under attack, and enter them and destroy the enemy. At this time the fire from artillery, tanks, and guns designated for fire by direct lay, which is delivered over the heads and from the flanks of attacking podrazdeleniye, is intensified.

When the attacking podrazdeleniye approach the buildings artillery pieces and machineguns shift fire to the upper storics and attics, to adjacent buildings, and to the gaps between them. (3 p. 43)

After entering a building motorized rifle podrazdeleniye, acting boldly, daringly, and decisively, destroy the enemy by fire point-blank and with grenades, clearing one room or corridor after another, floor-by-floor. Sappers attached to the rifle companies or assault groups lay passages through walls and between floors and in case of need they clear mines from the buildings seized. After seizing a strongpoint or building or other structure and carrying out an immediate mission, every podrazdeleniye receives a new mission and attacks subsequent objectives without stopping. (3 pp. 40-41)

The system of fire in a defensive position in a city is based on a combination of flanking and interlocking fire of all types and is arranged in several layers for the purpose of creating multilayer fire on the approaches to a defensive area and its strongpoints as well as on the flanks and in the rear of podrazdeleniye.

The system of fire is tied in with artificial and natural obstacles. It must provide for: destruction of the enemy and mainly his tactical nuclear weapons and artillery and tanks on the distant approaches to the battalion defensive position; repulse of mass tank and infantry attacks in front of the forward edge; cover by fire of flanks and gaps when occupied by podrazdeleniye and also artificial and natural obstacles; and infliction of damage on an enemy who has penetrated the defensive position and rapid concentration of fire at any threatened point or sector. (3 p. 53)

To support a perimeter defense of a site, strongpoint, or the defensive area as a whole the system of fire is so organized that all streets, interections, gaps between buildings, entrances to squares and also parks and public gardens, the approaches to bridges and overpasses, and the approaches to water obstacles are kept under flanking and interlocking multilayer fire and also concentrated fire of mortars and artillery located in covered firing positions. Particular attention is devoted to the organization of antitank fire since it will be possible to deliver fire at enemy tanks in the city itself only for a very limited time. (3 p. 54)

Weapons are concealed and distributed in the strongest buildings and structures, behind strong walls, and also in positions prepared on squares, in parks, and in other areas which are not built up. To increase the density of fire it is advantageous to place weapons on all floors, in several tiers. In so doing it must be remembered that the upper floors will be destroyed by enemy fire to a greater extent than the lower floors and therefore most of the firing positions should be placed on the lower floors and in the semibasements of buildings. For the weapons on upper floors shelters as well as firing positions are prepared. (3 p. 54)

The reconnaissance and attack by lead enemy podrazdeleniye are repulsed by the fire of designated weapons and also by podrazdeleniye defending on the avenues of approach involved. For the purpose of deceiving the enemy with respect to the friendly system of fire it is advisable to locate some of the

weapons intended for the purpose of repulsing reconnaissance and the attack of the enemy lead podrazdeleniye outside the defended buildings and strongpoints, for example, in dummy strongpoints or in adjacent buildings. After an attack is repulsed the weapons whose positions have been revealed are moved to new firing positions. Passages laid by the enemy in our obstacles are immediately covered by mined obstacles or covered by strong fire of all types. (³ p. 73)

The system of fire is closely tied in with the system of obstacles. The battalion commander determines exactly the location of minefields in front of the forward edge of the defensive position, in the gaps between company strongpoints, and on the flanks of the battalion defensive positions and within it. He determines the locations of barricades and log obstacles and the degree to which natural obstacles must be reinforced.

Preparation of a system of fire at obstacles is not a separate step in the work of a commander in organizing a defensive position. It is part of the complex of steps taken by a battalion commander in assigning missions and organizing coordination among podrazdeleniye. (³ p. 65)

Streets and gaps between strongpoints are barricaded and approaches to them are swept with fire. To prevent the enemy from enveloping these obstacles, they are installed close to strongly built constructions and fences. Loopholes and machine-gun emplacements for firing at the streets and squares are made in the barricades. Passages for the manoeuvre of friendly subunits and for mechanical transport are also left in them. The passages are thoroughly guarded and covered with fire and movable obstacles. (⁶)

The existence of numerous dead spaces not kept under fire and sectors not kept under observation on the approaches to defended buildings and other structures and generally to all sites under conditions prevailing in a city make it necessary to organize fire in several layers. Firing positions are prepared on all floors of buildings and in attic areas. To avoid large losses in personnel and weapons firing positions on the upper floors should be occupied only in case of need and

only when in direct contact with the enemy when there is little probability of employment of nuclear weapons by the enemy. (³ p. 63)

Buildings and other structures in the gaps between strongpoints are prepared for blasting, mined obstacles are prepared, log obstacles and barricades are set up, and provisions are made for flanking and interlocking fire of all types to cover the flanks and the gaps between strongpoints. (³ p. 55)

Antitank podrazdeleniya remaining under the direct control of the motorized rifle battalion commander prepare firing positions in places from which they can deliver fire along wide and long streets, main arteries, squares, and expected routes of attack of the enemy main forces. (³ p. 57)

In repulsing the enemy attack the infantry should be cut off from the tanks and destroyed first since separate tanks or groups of tanks which break into the city without infantry can be rapidly destroyed by antitank weapons at short range. In this event the strength of the battalion defensive position will not be impaired. (³ p. 73)

Men in tank and motorized rifle ambushes do not open fire at the enemy before he approaches the ambushes. When the enemy gets close to them they destroy tanks and infantry by opening fire suddenly, preventing the enemy from making further progress within the defensive position. After they have completed their mission the tanks and motorized riflemen designated for ambush occupy other positions and receive a new mission. (³ p. 74)

e. House and Street Fighting

If battle is fought in a building having a large number of rooms the commanders try not to disperse their forces. In order to break down the enemy resistance quicker, the troops capture, first of all, the upper stories of the building, staircases, entrances and exits. The

defenders on the lower floors and in basements are destroyed with grenades, submachine- and machinegun fire through holes in the ceilings. The main walls are breached with hand grenades or blown down. Inside a building hand-to-hand fighting, employment of grenades and point-blank fire acquire special importance. The personnel of the advancing subunits are provided with an increased supply of hand grenades and cartridges. (1)

On the scrupulousness of preparing the subunits to attack a building is indicated by the fact that immediately before the attack each soldier is shown not only the direction of movement, but also into which window, door, or opening he must break and where he is to go subsequently. The commander of the battalion personally checked the readiness of the group for the attack, their understanding of their tasks, knowledge of signals, readiness to fight with fire weapons, and supply of ammunition. (14 p. 27)

The advancing enemy is destroyed at the approaches to a strongpoint by the use of all weapons in coordination with the neighbors and with artillery and mortar fire from covered positions, by air strikes and demolition of mined obstacles. If in separate areas the enemy manages to penetrate the defences and to capture several buildings or a strongpoint, the commanders of subunits stop him by well-organized fire. Artillery and mortar fire prevents the enemy reserves from being brought up and isolates the subunits which have penetrated the defences. (6)

If the building is set in a closely built-up street barring a roundabout way, it is necessary to attack the front. Sometimes it is advantageous to seize at first an adjacent, less strong or an unoccupied opposite building in order to then inflict a strike simultaneously on the front and flank. For approaching the rear of the enemy, to use underground structures.

In the building first of all to seize the stairs between stories, entrances, and exits, in order to more quickly cut the enemy garrison into parts and destroy it.

In the rooms can be employed different modes of activity. For example, one of the soldiers, reaching the door from one side, by a sharp movement opens it and hurls a grenade. (16)

After entering a building motorized rifle podrazdeleniye, acting boldly, daringly, and decisively, destroy the enemy by fire point-blank and with grenades, clearing one room or corridor after another, floor-by-floor. Sappers attached to the rifle companies or assault groups lay passages through walls and between floors and in case of need they clear mines from the buildings seized. After seizing a strongpoint or building or other structure and carrying out an immediate mission, every podrazdeleniye receives a new mission and attacks subsequent objectives without stopping. (³ pp. 40-41)

They boldly burst into the houses and block all entrances and exits, especially from basements. Making wide use of hand grenades and point-blank fire, they destroy the enemy. Machinegunners fire at windows, embrasures, garrets and roofs to cover the attacking subunits. Success of fighting inside a building depends on the speed, resolve, initiative and daring of each soldier. (¹)

Motorized-rifle subunits should try to seize attacked objectives from two or three sides. The success of the fighting within a building depends on the quickness, initiative, and bold actions of each soldier. Passage from one story to another is performed along stairs and through holes in ceilings. In order to paralyze the resistance of the enemy and to deprive his separated groups of mutual assistance and support, it is recommended first of all to seize the stairs between the floors, entrances, and exits from premises, and then to annihilate isolated groups in detail. (⁷ p. 38)

Approaching a building, the soldiers on the run threw grenades at windows, doors, and openings in the walls, and after the explosion burst into the room.

Entering the house, the attackers first of all tried to cover the staircases leading to the upper floors, to locate the passage to the basement, and on the first floor several rooms with windows to the yard. This was done in order to isolate individual groups of the enemy and to prevent them from conducting a maneuver or rendering assistance to each other. (¹⁴ p. 28)

Ascending the staircase to the upper floors, troops threw smoke grenades ahead of themselves and swept the area with automatic fire and the stairwell is

gotten over in one stroke. Reaching the next floor, the attackers burst into the rooms after throwing grenades into them. If doors were closed, they were blown up. It was not recommended to break down a door, since the enemy attacked the attackers by automatic weapon fire at this time.

For passage from one room to another, walls were blown up by grenades or TNT. (¹ p. 28)

Thus, attacking along the streets, it is necessary to move close to the sidewalk in order to conduct more effective fire on buildings situated on the opposite side. One motorized-rifle subdivision moves on the left and right of the tanks firing at lower stories of buildings, others—directly behind them firing higher. (¹)

A battalion or company commander can assign part of his forces to cover the flanks and repulse an enemy counterattack and also blockade individual buildings and use his main forces to develop the attack in the indicated direction.

Motorized rifle podrazdeleniye set up smoke screens to support rapid crossing of certain sectors.

Specially assigned podrazdeleniye or teams from the reserve check seized buildings and structures, seize them from remaining groups or individual soldiers left by the enemy, clear mines, and in case of need put out fires and consolidate the objectives seized. (³ p. 41)

When the enemy penetrates the edge of the city defensive combat breaks down into several local battles. Defending podrazdeleniye destroy an enemy who has penetrated buildings by point-blank fire, hand grenades, and hand-to-hand combat. An enemy who has seized a building prepared for destruction is destroyed when the building is blown up. (³ p. 74)

The existence of numerous dead spaces not kept under fire and sectors not kept under observation on the approaches to defended buildings and other structures and generally to all sites under conditions prevailing in a city make it necessary to organize fire in several

layers. Firing positions are prepared on all floors of buildings and in attic areas. To avoid large losses in personnel and weapons firing positions on the upper floor should be occupied only in case of need and only when in direct contact with the enemy when there is little probability of employment of nuclear weapons by the enemy. (3 p. 63)

It is advisable to locate separate submachinegunners or snipers on the upper floors or in the attics. When well camouflaged and sheltered, they can maintain observation over the enemy and with precise fire inflict casualties on enemy personnel and prevent unhindered movement by personnel over the territory occupied by the enemy.

An example of capable distribution of weapons in a city is provided by "Home of Pavlov" which during battles in the city of Stalingrad was defended by a garrison consisting of 20 men. In addition to submachineguns and rifles the garrison had as weapons: one hand and one heavy machinegun, three antitank guns in the semibasement of the first doorway and the antitank guns in the semibasement of the second doorway. Alternate positions on the second floor were prepared for them. The hand machinegun was on the second floor and the submachinegunners in rooms on the first floor. The mortarmen occupied firing positions within the building and during the course of combat they often changed position, moving from one floor to another. Later two snipers were sent to the garrison from the regiment and they occupied positions in the upper floors of the building. Embrasures and viewing slits were prepared on all floors to the front as well as to the rear. The garrison was able to cover the entire perimeter of the building.

The locations of weapons as indicated above was dictated by the situation. (3 p. 64)

In defending a city fighting fires acquires very great importance. The conditions prevailing in a city usually abet fires and fires break up combat action of podrazdeleniya, hinder the delivery of counterattacks, and make the defense of separate locations or buildings impossible. As a result of fires, passages and crossings appear where they formerly did not exist

and, on the other hand, existing passages may become covered and impassable.

In view of this commanders take several special measures: they create special detachments for fighting fires; prepare subordinate podrazdeleniye and all personnel to make capable use of fire-fighting equipment and provide protection against enemy incendiaries; and in places where fires are most apt to break out they establish stores of water in barrels, sand, ponchos, etc. (³ p.70)

If the enemy breaks through into a building he is destroyed by point-blank fire, hand grenades and hand-to-hand fighting. During the fighting inside a building, the fire of guns, machineguns and mortars is used to prevent the approach of fresh enemy forces and the delivery of ammunition.

The success of a counterattack depends to a great extent on the courageous and resolute actions of small subunits and separate groups of soldiers, on their skill to manoeuvre, to use point-blank fire, to use hand grenades and courageously engage the enemy in hand-to-hand fighting. Buildings and structures cleared of the enemy are immediately checked for mines and consolidated by the subunits detailed for this purpose. (⁶)

For the purpose of regaining buildings and strong-points seized by the enemy the battalion commander organizes a counterattack with his reserve or second echelon. This counterattack must be launched immediately since an enemy will be able to adapt seized buildings or locations rapidly for perimeter defense.

A counterattack in a city is executed rapidly to the flanks and rear of an enemy who has penetrated. Podrazdeleniye prepare concealed routes to lines of deployment, making primary use of underground routes of communication and communication trenches. Because of limitations on observation in a city and the complexity and lack of clarity in the situation in a sector where an enemy has penetrated, podrazdeleniye moving to the front in a counterattack must have reconnaissance and security. Fighting by counter-attacking podrazdeleniye for strong and large buildings may have the nature of an assault. Therefore, companies in the second echelon or the reserve must be ready to

act as assault groups. All buildings and other structures freed of the enemy during the course of a counterattack are checked immediately for mines and are occupied by podrazdeleniye designated for this purpose. The success of a counterattack will depend in large measure on bold and decisive action by small podrazdeleniye and separate groups of soldiers and on their ability to execute maneuver, fire their weapons point-blank, use hand grenades, and fight hand-to-hand. (³ p. 73)

f. Pursuit

Pursuit is begun immediately upon the initiative of the subunit commanders who discover the retreat. By their decisive actions they eliminate subunits of enemy cover and, making use of breaks and intervals in his combat formation, move swiftly to the flanks and to the rear, attempting to prevent the enemy from capturing important road junctions, commanding heights, and crossings. What is most important is not to give the enemy any respite, to block all his attempts to withdraw his troops from under attack, and to prevent him from systematically retreating or occupying defenses at useful sites. (²)

g. Consolidation

After carrying out assigned missions the battalion or company commander immediately reports this to his next higher commander. Depending on instructions a podrazdeleniye may continue to develop the attack or consolidate on a line which has been reached. (³ p. 44)

Having fulfilled the assigned mission, the attackers immediately consolidate in the captured area. (¹)

To keep order in a captured town or in a part of it a commandant and a duty subunit are appointed and patrols are organized. A thorough check of all captured buildings and their clearing of the enemy personnel and demining is carried out. (¹)

Important objectives or structures seized are consolidated by specially designated podrazdeleniye and are prepared for perimeter defense. In this case particular attention is devoted to consolidating street intersections, open areas, squares, and exits from underground structures and to preparing to repulse enemy counterattacks. (³ p. 42)

The objectives (buildings) captured are consolidated by specially detailed subunits and prepared for perimeter defense. Special attention is paid to street crossings, squares, public gardens, exits from underground structures, and to readiness for repulsing enemy counterattacks. All-round support of combat actions, especially active and continuous reconnaissance, acquires great importance during fighting in a town. (¹)

To assure the successful development of the attack in the depth and the repelling of possible counter-attackers, captured objectives (positions) are consolidated by forces of the reserve. Tactically important objectives are improved as strongpoints and streets are prepared for mining. Special attention is devoted to consolidating crossroads, main streets, squares, bridges, and other important sectors. (⁷ p. 39)

Having destroyed the enemy who have penetrated and re-established the situation the troops take measures for the immediate organization of the disorganized fire system, repair damaged obstacles and replenish their stocks of ammunition. Buildings destroyed but not occupied by friendly troops are mined. In the depth of the defenses the roads are cleared and bypasses for the manoeuvre of tanks, self-propelled artillery and artillery are organized. (⁶)

3. Soviet Guidelines for the Engineer in Urban Warfare

The bulk of Soviet tactical writings on urban warfare indicate that the Soviets normally attach engineer support units/personnel to the very small units in their task organizing for combat. In this research a rather singular exception is uncovered which indicates

that "as a rule sapper podrazdeleniye attached to a battalion are kept centralized under the battalion commander."^{*} The quote is in the context of defense however and the implication is clear that in the defense centralized control at the battalion level is preferred while in the attack attachment down to the small unit level is considered to be required. Engineer tasks include engineer reconnaissance, pioneer work such as general demolitions, route preparation, constructing and clearing obstacles, barricades and fortifications, the clearing of buildings and lines of communications as well as the normal sapper functions of wall breaching and laying, detecting, removing, detonating and disarming mines. Engineer support at the small unit level can be substantial to include reinforcement of a rifle company by as large a unit as an engineer platoon. Engineers are assigned special tasks for "emergency rescue work" following nuclear detonations and as special fire fighters in cities.

Sapper podrazdeleniye in an attack in a city will often be attached to motorized rifle companies and platoons designated for action as part of assault groups and also groups for seizure and destruction of nuclear charges.

Their main missions will be: preparing paths for approach to the city; laying passages through rubble and barricades; destroying individual buildings; clearing mines from the most important sites designated by the attackers for setting up control points, aid stations, storage areas, etc.; and preparing mined obstacles for fortifying regions and sites which are seized.

Acting as part of assault groups, sapper podrazdeleniye conduct engineer reconnaissance, lay passages in mined obstacles and barricades and rubble; support the forward movement of tanks, armored personnel carriers, and artillery; do demolition work in buildings and other structures defended by the enemy; and participate

* Shovkolavich, et al., op. cit., p. 57.

in the elimination of the consequences of employment by the enemy of nuclear weapons. (³ p.21)

Engineering support for an offensive in a city includes engineering reconnaissance of the fortifications and obstructions of the enemy; making gaps in the obstructions and ruins; making breaches in walls, fences, and ceilings of buildings; supporting assaults of strongly fortified buildings and strongpoints; arranging for river and canal crossings within a city (usually with covered banks); clearing streets and mining buildings; localizing and extinguishing fires; and setting up obstructions (including electrified obstructions using energy from the city power stations) for reinforcing the captured targets and blocks. Furthermore, it may be possible to adapt underground structures for reinforced points and shelters and to restore water lines for supplying troops with water, etc. (¹⁰ p. 93)

On the average, in our opinion, in the direction of the offensive of each motorized-rifle battalion (or tank battalion), it is necessary to send out one or two IRD* (or IRC)*, supplying them with photographic equipment, radio stations, and large scale plans of the city. (¹⁰ p. 93)

Engineer support amounts to performing engineer reconnaissance; preparation of routes for advance to the city by attacking podrazdeleniye; laying passages in obstacles and obstructions in the streets, barricades, and fences; destruction of buildings or other structures prepared by the enemy for defense; setting up obstacles and consolidating lines or objectives seized; clearing lines from buildings or other structures to be adapted as control points, aid stations, and food, clothing, and equipment supply points.

Particular attention is devoted to checking for the presence of mines in underground routes of communication. Underground routes can be used for maneuvering podrazdeleniye during the course of combat within the city and for penetrating the city.

Sapper podrazdeleniye acting as part of motorized rifle podrazdeleniye or assault groups support execution

* Engineering reconnaissance patrol (eng. recon. group)

of the combat mission by these podrazdeleniye or groups. They perform engineer reconnaissance of approaches to objectives which might be mined; lay passages in baricades and obstacles thereby providing for forward movement of tanks, BTR (armored personnel carriers), and artillery; destroy the enemy defending in buildings and other structures by blowing them up; and give help to attacking podrazdeleniye in fighting fires and conducting rescue work. (⁷ pp. 34-35)

It is apparent that the methods and means of conducting engineering reconnaissance will be the same as under ordinary conditions. However, direct inspection and search should be considered the most effective. This is explained by the fact that, on the one hand, the distance of observation and photographing is limited in a city, and on the other hand, more favorable conditions for the secret approach and activity of scouts are created.

Therefore, in preparing an offensive in a city, it makes sense to reduce the number of engineering observation posts and with these men to create more engineering reconnaissance patrols (groups) for reconnaissance by search. (¹⁰ p. 93)

A battalion acting in the first echelon on a main avenue of approach may receive for reinforcement an artillery battalion, a tank company or a battery of SAU (self-propelled artillery pieces), and a company of sappers and may be supported by the fire of an artillery battalion.

A battalion acting as an assault detachment can receive more sapper podrazdeleniye than indicated above and the artillery in support of its attack will be stronger.

A motorized rifle company can receive for reinforcement a tank platoon, an artillery battery, and a sapper platoon. (³ p. 17)

Success of the actions of an assault group depends largely on a rapid approach of podrazdeleniya to the objective under attack, which in turn is connected with crossing mine fields. In our opinion, one attached squad of sappers can make 1-2 passages. This will allow a company to occupy favorable positions for the assault. A second sapper squad together with heavy

artillery can be advantageously used for making breaches in the walls of the objective being defended. (5)

A motorized rifle battalion assigned as an assault detachment is reinforced with artillery, tanks, and sappers. It is committed to combat on the outskirts or right within the city for assaulting heavily fortified buildings. (5)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS (protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile), one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. (5)

With the beginning of the artillery barrage, under the cover of fire and smoke screens, subunits of combat engineers make gaps in obstacles. For their protection and to let the infantry and tanks pass through them, the combat engineers detail commandant's posts. (1)

Preparatory fires for the attack are delivered at the designated time. During this period sapper podrazdeleniye, under the cover of fire from artillery, mortars, tanks, and guns designated for firing by direct lay and also fire of motorized rifle podrazdeleniye, lay passages in enemy obstacles. (3 p. 41)

Sappers acting with attacking podrazdeleniye lay explosive charges and on signal of the podrazdeleniye commander blast permanent structures or buildings. (3 p. 44)

Sappers designated to lay passages move under cover of fire to the objective under attack, reconnoiter the obstacles around it, and lay passages to them. (3 p. 43)

Sapper podrazdeleniye blast with elongated charges and lay passages in enemy mined obstacles. (3 p. 40)

Tanks equipped with antimine drags act together with sappers and lay passages in enemy mined obstacles. Motorized rifle and sapper podrazdeleniye designated for immediate assault move behind them. The tanks, delivering fire at embrasures or windows of a structure under attack, approach it and cover the attacking motorized riflemen and sappers with their fire and armor. (⁸ pp. 43-44)

After entering a building motorized rifle podrazdeleniye, acting boldly, daringly, and decisively, destroy the enemy by fire point-blank and with grenades, clearing one room or corridor after another, floor-by-floor. Sappers attached to the rifle companies or assault groups lay passages through walls and between floors and in case of need they clear mines from the buildings seized. (⁹ pp. 40-41)

In our opinion, two or three obstacle-clearing groups included in the sapper squad on the armored personnel carrier, one or two tanks with BTY and KMT-5s equipped with ropes with grapnels are necessary. It is necessary for sappers to have with them 400 to 500 kg of explosives, 20 to 30 components of distributed charges and several cumulative charges, mine searchers, probes, detonating means, and wooden mallets for tapping walls in order to discover chambers with explosive charges. If there are many narrow canals in the city, it would be advisable to include in these groups a bridge layer.

The obstacle-clearing groups should follow directly behind the companies of the first echelon, and, when obstacles are met, they are moved forward under cover of fire to make gaps. (¹⁰ p. 95)

Wide canals and rivers flowing through a city may prove to be serious obstacles for attacking troops. To force them successfully from the march podrazdeleniye reinforced with sappers and diver-scouts are sent out ahead of time to support successful forcing of them from the march. These podrazdeleniye have the mission of determining whether the enemy occupies the far bank, whether the obstacle is mined on the banks and in the water, the nature of the banks and the bottom, and the existence of crossings and fords. Furthermore, provisions are made for sending out podrazdeleniye (depending on the importance of the water obstacles) to seize existing

bridges and crossings and secure them until the approach of the attacking podrazdeleniye. These podrazdeleniye, without joining with the enemy in combat and using underground structures, reach the indicated objectives, hold them, and support crossing of the water obstacles by the attacking podrazdeleniye.

If bridges, dams, and other structures on water obstacles are not seized or prove to be destroyed by the enemy and if bridge-carrying tanks cannot be used, attacking podrazdeleniye are obliged to force the water obstacles. This entails a great amount of engineer work to make entries and exits at the water's edge for equipment since, as a rule, the banks of canals or rivers in a city are steep and made of concrete. To support this work advance motorized rifle podrazdeleniye, in forcing a water obstacle by using means found at hand, will have to seize objectives on the far bank. (³ p. 41)

In organizing fortifications of a defensive area a battalion commander determines the extent of engineer work needed, establishes sequences and terms for completion, indicates what machinery is available and where it is to be used; he indicates locations for setting out mined and other obstacles, what buildings and other structures are to be prepared for blasting and procedures for blasting them, and the locations for log obstacles and barricades on streets; and he determines procedures for using podrazdeleniye to perform engineer work and he also indicates necessary camouflage measures. (³ pp. 68-69)

Sapper podrazdeleniye in defense of a city set out mined obstacles; prepare log obstacles, barricades, and other obstacles; destroy buildings or lay passages through their walls and in fences and other structures; and they lay routes for movement of podrazdeleniye for executing counterattacks and maneuvering from one position to another. Sapper podrazdeleniye are also used for emergency rescue work in case the enemy uses weapons of mass destruction and to put out fires in the city.

As a rule sapper podrazdeleniye attached to a battalion are kept centralized under the battalion commander. (³ p. 57)

Masonry and reinforced concrete buildings designated for defense are prepared for all-around defense. Door and window openings in the buildings which are not designated for use are filled in solid with brick or sandbags. Embrasures for firing submachineguns, machine guns, grenade launchers, and other weapons and viewing slits for observation are prepared with perimeter defense of the building in mind. Stairwells are barricaded, mined, or destroyed. Hatches are made through ceilings and ladders are made. Corridors within buildings are barricaded and prepared for small arms fire. To decrease losses from shell fragments which get inside buildings, partitions made from bricks, sandbags, or other material must be made between embrasures and viewing slits.

Communication routes are prepared between strongpoints and defended buildings for which purpose use is first made of underground structures (tunnels, subways, water mains, etc.), and when these do not exist trenches are dug, the most important sectors of which are covered to protect them when buildings around them are destroyed.

In those cases when there are no strong underground structures or basement areas which might be used to protect personnel against nuclear weapons, shelters are dug in the ground away from defended buildings in order to keep them from becoming covered with rubble.

In preparing basement areas which are used for shelters for protection against fire and to diminish the dose of penetrating radiation, the floor of the first story is sprinkled with dirt to a thickness of 20—40 cm. Shelters are built so that they will be under the ruins of the upper stories following a nuclear blast. The main entrance is usually made near a stairwell and existing underground routes of communication between basement areas are used as alternate entrances.

The gaps between strongpoints, streets, squares, and parks are filled with mined and other obstacles and covered by fire. In a city all types of obstacles can be used in conjunction with explosives or without them: antitank and antipersonnel mines, delayed action mines, fragmentation-barrier mines, barricades, antitank steel hedgehogs and turnstiles, reinforced concrete posts, tetrahedra, and also barbed wire obstacles.

Bridges over rivers and canals and also underground structures running from the direction of the enemy

(tunnels, subways, drainage ditches) are prepared for demolition. As a rule, they are blasted when the enemy threatens to seize them. Some buildings should be prepared for reduction to rubble for the purpose of blocking streets in case of need. (³ pp. 69-70)

Streets and gaps between strongpoints are barricaded and approaches to them are swept with fire. To prevent the enemy from enveloping these obstacles, they are installed close to strongly built constructions and fences. Loopholes and machinegun emplacements for firing at the streets and squares are made in the barricades. Passages for the manoeuvre of friendly subunits and for mechanical transport are also left in them. The passages are thoroughly guarded and covered with fire and movable obstacles. (⁸)

Accessible underground routes of communication are prepared to serve as routes of supply and evacuation. Furthermore, stores of materials and repair equipment as well as aid stations are located in them.

In connection with the difficulty involved in bringing up supplies and evacuation, stores of ammunition, food, medicine, and drinking water are set up in strongpoints in the defensive area. (³ p. 55)

Not all buildings are used for the defensive positions of a company or platoon but only the more solid ones which are located at intersections of main arteries and at the entrances to squares, parks, bridges, and other important sites. Buildings are selected for strongpoints in light of the possibility of conducting observation and fire from them and the possibility of protecting personnel against weapons of mass destruction. Wooden structures and also buildings which hinder fields of fire are removed where possible. (³ pp. 51-52)

The stability of a defensive position in a city is greatly enhanced by fortifications. All kinds of buildings and underground structures and basements are prepared and fortified as shelters which provide protection against nuclear and other weapons. Buildings are adapted for the defense, windows and doors are filled in with bricks and sandbags, firing embrasures are made, holes are made and routes prepared in attics and between floors for maneuver and interaction among podrazdeleniye. (³ p. 54)

Buildings and other structures in the gaps between strongpoints are prepared for blasting, mined obstacles are prepared, log obstacles and barricades are set up, and provisions are made for flanking and interlocking fire of all types to cover the flanks and the gaps between strongpoints. (³ p. 55)

Land and other mines are laid on the main arteries on the approaches to the defensive position and to defended sites; barricades and other obstacles are erected on streets and squares; and bridges, overpasses, subway stations, separate buildings and sectors of underground structures are prepared for blasting. (³ p. 55)

To facilitate fire fighting all inflammable objects are removed from buildings, wooden floors are sprinkled with sand, and water supplies are established in case the municipal water supply system is put out of operation. Windows and other openings in buildings are covered with grills or fire-resistant plates so that the enemy will be unable to throw incendiaries through them. The entrances into dugouts and basement and semibasement areas are covered with brick thresholds 15--20 cm thick for the purpose of preventing spread into these areas of napalm, pyrogel, and other incendiary mixtures. Fire lanes not less than 50--70 m wide are prepared on the streets for the purpose of preventing the spread of fires over the city. (³ p. 55)

Camouflage in a city is greatly facilitated by the closed nature of the terrain and does not require great expenditure of camouflage means. It is achieved by the location of personnel and weapons in buildings, arranging and carefully covering embrasures in the corners of buildings, and window and door openings, by the creation of dummy defensive locations in blocks and in buildings not defended by podrazdeleniye, by observing sound and light discipline, by extensive use of smoke agents, and by excluding the local populace from the defensive area. A battalion commander provides for all these measures in organizing a defensive position and fortifying it. (³ p. 70)

From the very first day the "Home of Pavlov" was prepared for perimeter defense. All approaches to the building were gradually mined and antitank and antipersonnel minefields were prepared around the building. In some sectors land mines were put out. A communication trench was dug to the rear for the purpose of delivering ammunition, food, and water to the garrison. A trench was dug in the rear of the building to give personnel protection against enemy artillery fire. Furthermore, a drain pipe passing to the rear of the building was adapted for the same purpose and two communication trenches were dug to it. Soldiers occupying a defensive position on the first and upper stories of the building, during strong artillery fire, used these routes to take cover in the drain pipe. Soldiers defending semibasement areas, during artillery fire, remained in place at their weapons. Good fortification helped our courageous fighting men hold the building for 58 days, until the day our troops reverted to the attack for the purpose of destroying the enemy forces at Stalingrad. (³ p. 70)

In organizing rear service support a battalion commander determines: in which of the strongest underground structures and basements to locate rear service podrazdeleniye and what stores of materials and water to establish in the strongpoints of companies in the event of combat in encirclement; what fortifications to prepare for the purpose of getting protection for rear service units against nuclear weapons; and how to provide continuous material, technical, and medical support for podrazdeleniye during the course of battle. (³ pp. 70-71)

The advancing enemy is destroyed at the approaches to a strongpoint by the use of all weapons in coordination with the neighbors and with artillery and mortar fire from covered positions, by air strikes and demolition of mined obstacles. (⁶)

The success of a counterattack depends to a great extent on the courageous and resolute actions of small subunits and separate groups of soldiers, on their skill to manoeuvre, to use point-blank fire, to use hand grenades and courageously engage the enemy in hand-to-hand fighting. Buildings and structures cleared of the enemy are immediately checked for mines and consolidated by the subunits detailed for this purpose. (⁶)

Having destroyed the enemy who have penetrated and re-established the situation the troops take measures for the immediate organization of the disorganized fire system, repair damaged obstacles and replenish their stocks of ammunition. Buildings destroyed but not occupied by friendly troops are mined. In the depth of the defences the roads are cleared and bypasses for the manoeuvre of tanks, self-propelled artillery and artillery are organized. (8)

After an attack is repulsed the weapons whose positions have been revealed are moved to new firing positions. Passages laid by the enemy in our obstacles are immediately covered by mined obstacles or covered by strong fire of all types. (3 p. 73)

4. Soviet Guidelines for Chemical and Radiation Specialists

Chemical and radiological reconnaissance is conducted continuously within the city according to Soviet tactical doctrine. There are references to creation of dependable systems for warning of chemical, bacteriological and radiation hazards. These specialists are also charged with monitoring the quality of food and water before being consumed by Soviet troops. Chemical smoke agents are cited as being particularly effective in concealing troop maneuver within the city.

In making his estimate of the radiation and chemical situation the battalion commander decides: how to organize radiation, chemical, and biological reconnaissance and warning of danger of nuclear or chemical attack or employment of biological weapons by the enemy; what measures must be taken to provide security and protection for sources of water against contamination by radioactive, chemical and, especially, biological agents; and where and in what quantity to establish stores of protective supplies and equipment. (3 p. 62)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS (protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile), one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. (5)

As regards the attached chemical specialists, they will support the sappers' work in preparing buildings for the assault, resorting when necessary to the placement of smoke screens. For successful operations in a city, personnel are issued an increased amount of ammunition, hand grenades, and antitank grenades. The men are provided with devices for assaulting reinforced buildings, means of signalling, and smoke devices, while sappers are given a sufficient quantity of explosives. (5)

Many measures are taken to organize protection against weapons of mass destruction. A dependable system for warning the garrisons in strongpoints employing all means of communication is established, and continuous radiation, chemical, and bacteriological reconnaissance is conducted within the city. Provisions are made for more complete use for protection of personnel of strong underground structures and basements and in case of need they are reinforced. Particular attention is devoted to protection for sources of water and safeguarding them against bacteriological contamination as well as strict observance in strongpoints and in a battalion defensive area as a whole of rules governing sanitation and hygiene. Measures are taken to eliminate the consequences of employment by the enemy of weapons of mass destruction and measures are prescribed for putting out fires and carrying out emergency rescue work. Personnel are categorically forbidden from using food, alcoholic beverages, and other things seized from the enemy or left by him and also water from any source without a preliminary test by medical workers. Particular attention is devoted to checking the quality of food and water before consuming them. (5 p. 68)

Podrazdeleniye for protection against weapons of mass destruction, if they are attached to the battalion, are used firstly for performing radiation and chemical reconnaissance and also for eliminating the consequences of enemy employment of weapons of mass destruction. (3 p. 57)

Radiation and chemical reconnaissance in a battalion is conducted by observation organized, as a rule, at the commander-observation post of the battalion, combat reconnaissance patrols which include attached chemical troops, and chemical reconnaissance patrols. (3 p. 68)

Smoke agents are used to conceal the maneuver of men and weapons between strongpoints, defensive areas, and separate buildings not having concealed or underground routes between them and also to prevent the enemy from observing and conducting aimed fire. (3 p. 57)

Smoke is used, as a rule, when meteorological conditions are favorable at the decision of the battalion commander. (3 p. 57)

Motorized rifle podrazdeleniye set up smoke screens to support rapid crossing of certain sectors. (3 p. 41)

Camouflage in a city is greatly facilitated by the closed nature of the terrain and does not require great expenditure of camouflage means. It is achieved by the location of personnel and weapons in buildings, arranging and carefully covering embrasures in the corners of buildings and window and door openings, by the creation of dummy defensive locations in blocks and in buildings not defended by podrazdeleniye, by observing sound and light discipline, by extensive use of smoke agents, and by excluding the local populace from the defensive area. (3 p. 70)

5. Soviet Guidelines for the Logistician

The logistician is instructed to anticipate much higher levels of ordnance expenditures in city fighting. In defense the stocks are

positioned well forward to facilitate distribution down to the small unit level at separate strongpoints (unit distribution system). In defense, protection of rear area service support against nuclear attack is cited as a special concern for the commander. In the attack, rear area service support is located outside or on the edge of a city prior to attack. Helicopters are cited as having special utility for delivering supplies in city fighting. Guidelines for medical personnel emphasizing the positioning of aid stations well forward (up to platoon strongpoints) and special techniques to be employed for recovering and evacuating the wounded.

Ammunition expenditure is much greater during an attack in a city. To conduct combat continuously it is necessary to increase supplies of ammunition in possession of personnel. For example, in the battles to seize the city and fortress of Kanigsberg riflemen and tankmen had as much as two units of fire. Usually bearers from podrazdeleniye will bring up additional ammunition. Vehicles carrying ammunition must be kept immediately behind the second echelon or reserve. (3 p. 42)

In doing this work the battalion commander governs himself primarily by the fact that under the conditions prevailing in a city stores of supplies must be based on calculations for extended combat by individual podrazdeleniye isolated from battalion main forces. The necessary stores of all supplies, including medical, are established in every company strongpoint and in some cases every platoon strongpoint. An aid station is organized. (3 p. 71)

Accessible underground routes of communication are prepared to serve as routes of supply and evacuation. Furthermore, stores of materials and repair equipment as well as aid stations are located in them.

In connection with the difficulty involved in bringing up supplies and evacuation, stores of ammunition, food, medicine, and drinking water are set up in strongpoints in the defensive area. (3 p. 55)

In organizing rear service support a battalion commander determines: in which of the strongest underground structures and basements to locate rear service podrazdeleniye and what stores of materials and water to establish in the strongpoints of companies in the event of combat in encirclement; what fortifications to prepare for the purpose of getting protection for rear service units against nuclear weapons; and how to provide continuous material, technical, and medical support for podrazdeleniye during the course of battle. The commanders of support podrazdeleniye are told procedures for replenishing ammunition and other supplies and preparing hot food and delivering it to personnel. They are told what routes to use for carrying out wounded and routes of evacuation to aid stations, procedures for performing maintenance on combat equipment, refueling, lubricating, and repair. (3 pp. 70-71)

Rear service support is organized in light of the nature of the coming battle. Additional reserves of supplies are established, especially ammunition and food, and procedures are prescribed for issuing them to personnel. A rear service podrazdeleniye is located outside a city or on the edge of it prior to the beginning of the attack. In the case of attack deep within a city the battalion aid station, ammunition vehicles, and a water tank truck are located close to combat formations. Different covered places, including basements and semibasements in buildings and underground structures, are used to locate them after these places have been checked for contamination and mines. Ammunition and food are delivered directly by bearers designated in each platoon. Search and collection of the wounded in basements, buildings, rubble, parks, and gardens are organized. (3 p. 35)

Successful use can be made of helicopters in defense of a city for delivering needed cargo to garrisons which are defending the city or sites in it and which are caught in enemy encirclement or are isolated from friendly forces. (3 pp. 57-58)

Personnel designated for searching for the wounded are provided with ropes, straps, and other gear for extracting the wounded from places difficult to reach. Company aid stations are set up in shelters in motorized rifle companies or assault groups. (3 p. 35)

6. Soviet Guidelines for the Artillerymen

As indicated in the following guidelines, the most significant characteristic of the employment of artillery in urban warfare is decentralization and the attachment of artillery units down to the single gun as far as the platoon level. The citation of the statistic that in a World War II precedent, 40 percent of all gun artillery was employed in a direct-lay mode seems significant. There is little Soviet emphasis in the following guidelines or in material researched in this investigation on the varied characteristics of urban warfare which may warrant varied approaches to attachment of artillery. While it would appear that at one extreme (a slow, building-to-building operation in a very large city) that decentralization of artillery assets was desirable while at another extreme (attack "from the march" against a small town where the assault is carried through the objective) that there would be a greater centralization of assets. The guidelines uncovered here are less flexible and tend to emphasize attachment of artillery in the attack as well as defense, in rapidly moving assaults as well as deliberate defense. There is ample reference to the importance of artillery preparation fires although there are several citations of the possibility of dispensing with such fires to capitalize on the principle of surprise.

Artillery. There are many important distinguishing aspects about employing artillery podrazdeleniye in a city. Because of the lack of wide fields of observation and fire, since there are large buildings and other structures, it is not possible to centralize the employment of artillery. Most frequently artillery podrazdeleniye accompany infantry and tanks by separate platoon or even separate gun during street fighting. Part of the artillery will deliver fire from covered firing positions while directly subordinate to the battalion commander.

In the Great Patriotic War during combat action to seize the city of Budapest 40 percent of all gun artillery was used to fire by direct lay, including 152-mm guns. In the battle for the city of Poznan' 203-mm guns were used to fire by direct lay.

In an assault detachment or group it is best to use artillery podrazdeleniye directly in combat formations of motorized rifle podrazdeleniye as accompanying guns for destroying buildings and other structures with fire by direct lay.

In this way artillery podrazdeleniye up to and including the firing platoon will be attached to motorized rifle companies and even to platoons.

In street fighting artillery firing positions are selected in gaps in walls and in fences, ruins, public and other gardens, parks, and in the spaces between buildings and structures. The command-observation posts of artillery commanders should be located together with those of the commanders of the motorized rifle podrazdeleniye to which they are attached or which they support. There must be artillery scouts reconnoitering for targets in the combat formations of the advance podrazdeleniye. During combat a battery changes position by platoon and a platoon acting separately by gun, leap-frogging forward under the cover of fire from adjacent guns and smoke.

Preparatory fires may consist of one or several onslaughts of fire depending on the nature of structures in the city, the strength of the defending enemy, and the density of fire needed to suppress him. The duration of this fire can be very brief. For example, in the battle for Berlin the duration of preparatory fires in the zone of attack of the 94th Guards Rifle Division and the Fifth Shock Army fluctuated from 5 to 20 min.

In comparison with preparatory fires conducted during an attack under ordinary field conditions, in a city for destroying various structures and the weapons located in them more artillery or mortar systems must be used, especially guns designated for firing by direct lay at targets located on the forward edge and immediately behind it. Separate batteries and even platoons delivering fire from covered firing positions and high-power guns for firing by direct lay are used to destroy enemy targets. To carry out their firing missions they will be given most of the time allotted for delivering

preparatory fires.

Supporting fire is conducted by separate fire onslaughts during the course of which separate enemy defensive structures are destroyed as attacking troops approach them. The signal to shift fire is given by motorized rifle podrazdeleniye commanders.

Mortar and in many cases howitzer podrazdeleniye are able with their high-angle fire to hit concentrations of infantry, suppress artillery and mortars, and deliver strikes at targets in the rear and enemy command post located in buildings and other structures.

As a rule, organic and attached mortar podrazdeleniye of the motorized rifle battalion are attached to motorized rifle companies and platoons and act in direct proximity to their combat formations. Some of the mortars, especially the large-caliber mortars, will most frequently be kept under the direct control of the battalion commander.

To increase the effectiveness of mortar fire when firing at targets located behind high, close-in cover, the firing positions for them can be located on roofs, in attics, on balconies, in wide places, in trenches, and even in basements. This is a distinguishing aspect of combat employment of mortars in a city. (³ pp. 20-21)

The suppression of the strongpoints in the forward area, the fire weapons in buildings located to a depth of 500 to 800 m, command and command-observation points on roofs and in garrets, and firing positions of mortar subunits, and the destruction of individual structures adapted for conducting flank fire are planned by the artillery subunits attached to or supporting the battalion (company) in the period of preparatory fire. Suppression of artillery batteries and major control points is charged to the commander of a higher commander. (⁸ pp. 28-29)

Attached to a motorized-rifle battalion attacking in a city along several parallel streets for reinforcement may be an artillery division and sometimes, in addition, a battery of antitank artillery. The attached artillery battalion is used for firing not only from the covered, but also from the open firing positions. Batteries are usually distributed for support of the companies in the

first echelon, and one of them is left at the disposal of the battalion commander. Battalion artillery and a tank-destroyer battery also operate with companies of the first echelon.

It can not be excluded that a motorized-rifle battalion will be reinforced by only a subunit of antitank artillery. In this case, its actions, as a rule, will be supported by an artillery battalion. (⁸ p. 28)

Due to the angle of mortar fire it is possible to hit an enemy located behind shelters.

However, it must be kept in mind that stone structures, having basements, serve as a reliable shelter from mortar fire. Under these conditions, the most typical missions for a mortar battery will be: hitting manpower and firepower deployed on city squares, streets, boulevards, vacant lots, in public gardens and parks, as well as command-observation points, manpower and firepower on the roofs and in the garrets of homes, behind barricades, and in ruins; suppressing the maneuver and counterattack of the enemy; covering the flanks of their subunits; and suppressing mortar subunits. Furthermore, mortars can also create centers of fires, and illuminate and screen objects in smoke. (¹¹ p. 108)

Howitzer artillery and mortars, which by their fire destroy enemy personnel and weapons, destroy buildings and other structures or make breaches in them, destroy control points, and prevent the enemy from maneuvering his men and weapons, are used primarily to conduct preparatory fires or a fire onslaught. When nuclear attack weapons are discovered all measures are used to destroy them immediately. The conduct of fire by direct lay at individual targets for which even large-caliber guns are used acquires particular importance. (³ p. 39)

With the initiation of the attack, artillery subunits by means of concentrated fire and firing on individual objectives continuously support the attacking subunits. Batteries implementing tasks from closed firing positions transfer firing into the depth in order to disrupt the fire coordination among them. Installations of PTURs and guns chosen for firing point blank transfer their fire to objectives in neighboring buildings hindering the forward movement of attacking subunits. With the development of the offensive, an artillery battalion can be enlisted for firing point blank. (⁸ p. 29)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS (protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile), one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. Such an assault group will be able to create fire superiority over an enemy reinforced platoon usually defending a large building, which will allow it to accomplish the assigned mission after fire preparation and air strikes and develop the attack without stopping. (³)

An attack against objectives located on the edge of a city is preceded by preparatory fires delivered by units under control of the next higher commander or by fire onslaught. An onslaught will usually be brief but will involve maximum use of all firepower of the artillery involved. (³ pp. 38-39)

A battalion acting in the first echelon on a main avenue of approach may receive for reinforcement an artillery battalion, a tank company or a battery of SAU (self-propelled artillery pieces), and a company of sappers and may be supported by the fire of an artillery battalion.

A battalion acting as an assault detachment can receive more sapper podrazdeleniye than indicated above and the artillery in support of its attack will be stronger.

A motorized rifle company can receive for reinforcement a tank platoon, an artillery battery, and a sapper platoon. (³ p. 17)

With this method of attack a strongly fortified city can be seized by a day or night assault by simultaneous attacks on flanks and in the rear, as a rule, only after long preparatory fires. However, the possibility cannot be excluded that in the interests of gaining surprise preparatory fires will not be used. Assault detachments and groups are formed in troop combat formations for the purpose of storming the city. (³ p. 14)

As the attacking podrazdeleniye reach the artillery safety line, fire is shifted to the rear of the enemy position. After approaching to within hand grenade range, motorized rifle podrazdeleniye, throwing hand grenades at the enemy, attack objectives on the forward edge. At this time artillery and aviation destroy the enemy located deep within the city and some of the artillery delivers covering fire against enemy artillery and mortar batteries and control points. (¹ p. 40)

The launching of an attack by the subunit is preceded by a short but powerful fire onslaught, during which the artillery and mortars neutralize and destroy the live forces and firing means in buildings and strongpoints, command and observation points, radio and radar stations, and prevent the maneuver of the enemy by forces and means. For demolishing strong defensive structures and for crushing the means of mass destruction, reserves, artillery, and control points may be used heavy artillery, rocket artillery, and missiles. A part of the guns and tanks, which have been moved up as close as possible to the objective of the attack, by point-blank shooting neutralizer the firing means, demolishes defensive structures, and knocks breaches into the walls of buildings. (⁷ p. 37)

Preparatory fires for the attack are delivered at the designated time. During this period sapper podrazdeleniye, under the cover of fire from artillery, mortars, tanks, and guns designated for firing by direct lay and also fire of motorized rifle podrazdeleniye, lay passages in enemy obstacles. However, in the interests of achieving suddenness of attack there may be no preparatory fires and this is characteristic of a night attack. In this case artillery will deliver fire for effect at the start of the attack. (³ p. 43)

Guns designated for firing by direct lay support motorized rifle and tank podrazdeleniye, preventing the enemy from entering the building or leaving it. (³ p. 44)

The motorized infantry and tanks, moving from cover to cover, are followed by guns detailed for direct fire. Firing along the streets, they destroy any targets which hinder the advance of the infantry and tanks. (¹)

When podrazdeleniye approach objectives under attack guns and tanks on signal of the battalion or company commander shift fire to the upper floors and to adjacent buildings and prevent the approach of enemy reserves. (³ p. 40)

At the signal for the attack or assault motorized rifle podrazdeleniye, under cover of fire and smoke, will cross obstacles using the passages which have been laid, reach the buildings occupied by the enemy which are under attack, and enter them and destroy the enemy. At this time the fire from artillery, tanks, and guns designated for fire by direct lay, which is delivered over the heads and from the flanks of attacking podrazdeleniye, is intensified.

When the attacking podrazdeleniye approach the buildings artillery pieces and machineguns shift fire to the upper stories and attics, to adjacent buildings, and to the gaps between them. (³ p. 43)

Success of the actions of an assault group depends largely on a rapid approach of podrazdeleniya to the objective under attack, which in turn is connected with crossing mine fields. In our opinion, one attached squad of sappers can make 1-2 passages. This will allow a company to occupy favorable positions for the assault. A second sapper squad together with heavy artillery can be advantageously used for making breaches in the walls of the objective being defended. (⁵)

Artillery in a city carries out most of its missions by firing by direct lay. Therefore, more artillery than under ordinary conditions, including heavy artillery system, is attached to companies and platoons and is used by platoon and by gun directly in strongpoints for delivery of fire by direct lay. Every gun in a strongpoint, as is the case for a tank, has two or three positions and routes of movement to them.

Artillery and mortars which remain under the direct control of the battalion commander deliver fire from covered firing positions. Mortars of all calibers find highly effective employment in a city. They are able to deliver fire at an enemy located behind cover, buildings, fences, and walls. (³ pp. 56-57)

The firing positions of tanks, guns, and armored personnel carriers are selected in corner buildings, in structures standing alone, and behind masonry fences. Door and window openings are used for firing and embrasures are made in walls. (³ p. 54)

Artillery and mortars delivering fire from covered firing positions are located in yards, vegetable and other gardens, on squares, and in stadiums. (³ p. 54)

It is advisable to locate fire positions as close as possible to the motorized-rifle subunit in wide yards, parks, on squares and between buildings. With this they should make it possible to conduct fire with significant variances from the assigned basic direction, and have good approach routes. (¹¹ p. 108)

The fire of artillery and mortars from covered positions is arranged in light of possibilities for destroying the enemy on the distant approaches to the city, on the near approaches to it, in front of the forward edge of the defensive area, and also deep within the city. Sectors for fire concentrations are designated so as to destroy the enemy on all routes and lines, including enemy positions behind shelters, buildings, fences, and walls. The fire of mortars is extensively used for this purpose. Positions for firing by direct lay in case of enemy breakthrough into the city are prepared for an artillery battery in addition to its covered positions. (³ p. 65)

The advancing enemy is destroyed at the approaches to a strongpoint by the use of all weapons in coordination with the neighbors and with artillery and mortar fire from covered positions, by air strikes and demolition of mined obstacles. If in separate areas the enemy manages to penetrate the defences and to capture several buildings or a strongpoint, the commanders of subunits stop him by well-organized fire. Artillery and mortar fire prevents the enemy reserves from being brought up and isolates the subunits which have penetrated the defences. (⁶)

As a rule, counterattacks are supported by artillery and mortar fire as well as by the tanks operating directly in the subunits' battle formations. (⁶)

7. Soviet Guidelines for the Employment of Aviation and Anti-aircraft Forces

As in U.S. Field Manuals there is little written in Soviet open literature on the employment of fixed wing, close support aviation.

3

in urban warfare. There are obviously limitations on the employment of high performance aircraft against positions where FERAs* are obscure and irregular and where a single building may be occupied by opposing forces for an extended period. Precision guided munitions will provide a greater capability to fixed wing aircraft in city warfare but many of the limitations and operational restrictions will remain. The Soviets do emphasize the use of aviation in counter air, interdiction, reconnaissance, and artillery spotting roles and there are citations of the flexibility and effectiveness of heliborne and helicopter supply operations. The guidelines imply that antiaircraft units are retained under centralized control. The principal missions assigned in defense are to protect defensive forces from low-flying aircraft and helicopters although they are also used in a direct fire role in support of infantry units. In the attack, antiaircraft weapons are employed principally to prevent air resupply of besieged forces within a city.

Aviation in fighting for a city is also used in accordance with the plans of senior commanders. Depending on its intended purpose it will be used to carry out varying missions. Reconnaissance aviation takes aerial photos of sites which are designated for destruction. It is also used to adjust the fire of artillery and mortars firing from covered firing positions and to keep track of approach by the enemy from the rear and the actions and dispositions of his troop units. Fighter-bomber aviation during preparatory fires suppresses the enemy occupying defenses in especially strong buildings; delivers strikes at his reserves; destroys his nuclear attack weapons, control points, and rear service facilities; and combats enemy aviation, preventing it from approaching the city. (3 p. 22)

During this period (preparatory fires) aviation suppresses the enemy in strongpoints set up in especially solid buildings or other structures located on the edge of the city as well as within it. It destroys them; suppresses

* Forward Edge of the Battle Area

reserves, artillery, and enemy control points; destroys nuclear attack weapons; protects advancing podrazdeleniye against enemy air strikes; and adjusts artillery fire. (1 p. 39)

Aviation delivers bomb strikes at main groups of enemy forces attacking the city, at his nuclear attack weapons and other weapons of mass destruction, and at groups of artillery and forces trying to bypass or encircle the city. Aviation is also used to cover defending troops and the city itself against the air enemy by delivering strikes against his aviation at airfields and in the air. (2 p. 57)

The advancing enemy is destroyed at the approaches to a strongpoint by the use of all weapons in coordination with the neighbors and with artillery and mortar fire from covered positions, by air strikes and demolition of mined obstacles. If in separate areas the enemy manages to penetrate the defences and to capture several buildings or a strongpoint, the commanders of subunits stop him by well-organized fire. Artillery and mortar fire prevents the enemy reserves from being brought up and isolates the subunits which have penetrated the defences. (4)

As the attacking podrazdeleniye reach the artillery safety line, fire is shifted to the rear of the enemy position. After approaching to within hand grenade range, motorized rifle podrazdeleniye, throwing hand grenades at the enemy, attack objectives on the forward edge. At this time artillery and aviation destroy the enemy located deep within the city and some of the artillery delivers covering fire against enemy artillery and mortar batteries and control points. (3 p. 40)

For the purpose of assisting advance chast' in rapid seizure of a city and important objectives along the routes leading from the city to the rear, extensive use will be made of tactical airborne assaults up to a reinforced motorized rifle battalion in strength dropped in the enemy rear by helicopter. (1 p. 13)

Successful use can be made of helicopters in defense of a city for delivering needed cargo to garrisons which are defending the city or sites in it and which are caught in enemy encirclement or are isolated from friendly forces. (3 pp. 57-58)

The senior commander will use PVO (antiaircraft) weapons to prevent delivery of materiel to the surrounded enemy or evacuation of the garrison from the city. This creates more favorable conditions for seizing the city since the enemy, not getting help from outside, will not be able to offer resistance for an extended period and will be forced to lay down his arms. An example of this is provided by the liquidation of fascist German forces at Stalingrad. The surrounded forces, which had been cut into several pieces by the attacking troops of the Twenty-First Army in conjunction with the Sixty-Second Army, were forced to capitulate at the end of one week. (3 p. 14)

The antiaircraft weapons of a battalion are used mainly to cover the artillery firing positions and the command-observation post against low-flying enemy airplanes and helicopters. In some cases they can be used to suppress enemy weapons located on the upper floors and in attics. Firing positions are usually selected in public and other gardens and on the roofs of buildings. (3 pp. 21-22)

Antiaircraft defense. By their fire antiaircraft weapons block the enemy from approaching a garrison under attack by air. During the course of the attack antiaircraft podrazdeleniye attached to the battalion are used for immediate protection of it. In the battalion weapons are assigned from the second echelon or reserve for the purpose of combating low-flying enemy airplanes. Antiaircraft podrazdeleniye are located in squares, public gardens, and parks and some of them on the roofs of buildings. Designation of front lines for friendly podrazdeleniye is organized especially thoroughly. (3 p. 35)

8. Soviet Guidelines for Armor and Antitank Forces

As stipulated for artillery, the Soviets prescribe attachment of tank units and even individual tanks down to rifle platoon level. They do however prescribe in the following guidelines that the platoon is the basic unit of combat for armor forces. Soviet tacticians emphasize the need for operating in tank-infantry teams with the two

arms mutually supporting. These Soviet guidelines envision armor as providing the speed and fire power required for an attack "on the move" that carries through and into the depths of a city to seize important objectives. Tanks provide direct fire, wall breaching and obstacle destruction capabilities in both attack and defense. Mine removal drags are used to clear passages of enemy mines. In accordance with the guidelines provided by one Soviet author, antitank forces in the defense are retained under the direct control of the infantry battalion commander. The first priority in defense against a tank is given to the separation of enemy infantry from tanks to permit antitank units to close with the enemy. This procedure would appear to be less a tactical essential given introduction into the Soviet arsenal of the long range and highly accurate Sagger wire guided antitank missile.* Nowhere in these guidelines is there a reference to the utility of helicopters as antitank weapons. The guidelines are quite explicit in detailing the manner in which tank ambushes are to be conducted which appears to indicate a Soviet emphasis.

Tank podrazdeleniye, as a rule, are attached to motorized rifle companies and platoons and operate in their combat formations. They fire by direct lay to clear the path for motorized rifle podrazdeleniye. They can be included in assault groups and groups for destroying nuclear charges. Usually the platoon is the least subdivision of tank podrazdeleniye. However, the possibility of separate tanks acting with motorized rifle platoons and squads cannot be precluded. Experience gained in battle shows during the course of an attack in a city a sound tactic is to employ a tank platoon wedge formation wherein one tank or SAU moves down the center of a street and other tanks or SAU move behind it at some distance on the right or left side of the street, providing mutual fire support. A squad of a motorized rifle platoon moves behind each tank, protected by the armor. In this case

* For a discussion of the combat effectiveness of this AT missile see Adelphi Paper number one hundred and eleven; Elizabeth Monroe and A.H. Farrar-Hockley The Arab-Israeli War, October 1973 Background and Events, The International Institute for Strategic Studies, London, Winter 1974-75, pp. 33-34.

tanks, covering one another by fire, can successfully hit weapons in strong implacements, remove barricades and rubble, and destroy enemy tanks and armor personnel carriers. Motorized riflemen can effectively combat enemy close-combat weapons and thereby support the tanks in successfully carrying out a mission. (⁵ pp. 19-20)

Attached to a motorized-rifle battalion attacking in a city along several parallel streets for reinforcement may be an artillery division and sometimes, in addition, a battery of antitank artillery. The attached artillery battalion is used for firing not only from the covered, but also from the open firing positions. Batteries are usually distributed for support of the companies in the first echelon, and one of them is left at the disposal of the battalion commander. Battalion artillery and a tank-destroyer battery also operate with companies of the first echelon.

It cannot be excluded that a motorized-rifle battalion will be reinforced by only a subunit of antitank artillery. In this case, its actions, as a rule, will be supported by an artillery battalion. (⁶ p. 28)

In attacking a city enemy tanks will operate primarily along streets, on squares, and in sectors which have not been built up. Therefore, most antitank weapons will be concentrated on the main tank-dangerous routes. The positions of tanks and antitank guns must be selected so that they will be able to cover by fire streets, intersections, squares, and parks with flanking and interlocking fire.

The fire of tanks and guns is reinforced by the fire of antitank grenade launchers and by hand grenades, capable use of which under the conditions prevailing in a city acquires exceptional importance in combating enemy tanks successfully.

The positions of antitank guns are set up in masonry and reinforced concrete structures and behind stone fences in which embrasures are formed for delivering fire and observing. Every position of a tank, gun, or antitank grenade launcher is covered by fire from adjacent positions and the fire of motorized rifle podrazdeleniye. (³ p. 65)

In connection with the fact that during fighting in a city, maneuver, vision, and firing are limited for tanks and also that orientation is hindered, they operate as accompanying guns directly in combat formations of the motorized-rifle subunit, and in close coordination with the subunits of the other types of troops. (⁷ p. 38)

A motorized rifle battalion assigned as an assault detachment is reinforced with artillery, tanks, and sappers. (⁵)

In our opinion, it is advisable to reinforce a company which attacks usually along one street with two or three tanks, a howitzer battery, mortar platoon, two or three PTURS (protivotankovyy upravlyayemyy reaktivnyy snaryad; antitank guided missile), one or two sapper squads, and two or three chemical specialists, and provide support with the fire of a battery or rocket artillery. (⁵)

Preparatory fires for the attack are delivered at the designated time. During this period sapper podrazdeleniye, under the cover of fire from artillery mortars, tanks, and guns designated for firing by direct lay and also fire of motorized rifle podrazdeleniye, lay passages in enemy obstacles. (³ p. 43)

The attached tanks usually operate in motorized infantry battle formations and, firing on the move, destroy the enemy fire weapons. (¹)

Tanks usually advance together with motorized rifle podrazdeleniye in their formations and, delivering fire on the move, destroy enemy weapons hindering forward movement of the infantry. (³ p. 40)

In those cases when the enemy offers weak resistance along a street, tanks with infantry mounted on them or infantry in armored personnel carriers and trucks move along the street at a great speed, delivering fire on the move. They reach important objectives in this way and seize them from the march. (³ p. 40)

If the enemy offers weak resistance the tank-borne motorized infantrymen approach the most important objectives at high speed and capture them on the move. (¹)

The motorized infantry and tanks, moving from cover to cover, are followed by guns detailed for direct fire. Firing along the streets, they destroy any targets which hinder the advance of the infantry and tanks. (¹)

At the signal for the attack or assault motorized rifle podrazdeleniye, under cover of fire and smoke, will cross obstacles using the passages which have been laid, reach the buildings occupied by the enemy which are under attack, and enter them and destroy the enemy. At this time the fire from artillery, tanks, and guns designated for fire by direct lay, which is delivered over the heads and from the flanks of attacking podrazdeleniye, is intensified.

When the attacking podrazdeleniye approach the buildings artillery pieces and machineguns shift fire to the upper stories and attics, to adjacent buildings, and to the gaps between them. (³ p. 43)

When podrazdeleniye approach objectives under attack guns and tanks on signal of the battalion or company commander shift fire to the upper floors and to adjacent buildings and prevent the approach of enemy reserves. (³ p. 40)

Tanks equipped with antimine drags act together with sappers and lay passages in enemy mined obstacles. Motorized rifle and sapper podrazdeleniye designated for immediate assault move behind them. The tanks, delivering fire at embrasures or windows of a structure under attack, approach it and cover the attacking motorized riflemen and sappers with their fire and armor. (³ pp. 43-44)

In organizing a system of antitank fire a battalion commander provides for: repulsing mass enemy tank attacks in front of the forward edge and destroying tanks which enter the city; concentrating fire along streets, squares, parks, gardens, and other sectors where enemy tanks might move; providing an all-around defense of sites and areas of the battalion as a whole; maneuver by antitank weapons from one avenue of approach to another; and cover of antitank and other obstacles by antitank weapons. (³ p. 64)

Antitank podrazdeleniye remaining under the direct control of the motorized rifle battalion commander prepare firing positions in places from which they can deliver fire along wide and long streets, main arteries, squares, and expected routes of attack of the enemy main forces. (³ p. 57)

Combat action in a city, as a rule, is conducted at close range and therefore the weapons of motorized rifle podrazdeleniye, such as machineguns, submachineguns, grenade launchers, and hand grenades will play an important role in inflicting damage on the enemy. In a city where maneuver and fire of tanks are limited, a large role will be played by manually operated antitank grenade launchers, hand grenades, and recoilless guns in the fight against enemy tanks. (³ p. 56)

To beat off the attack the subunits first of all cut off the infantry from the tanks and destroy it. Separate tanks which have broken through into the town without infantry are destroyed with antitank weapons at short range. (⁶)

In repulsing the enemy attack the infantry should be cut off from the tanks and destroyed first since separate tanks or groups of tanks which break into the city without infantry can be rapidly destroyed by antitank weapons at short range. In this event the strength of the battalion defensive position will not be impaired. (³ p. 73)

Ambushes of motorized infantry and tank subunits open fire when the enemy approaches at a short distance. By surprise fire they destroy his tanks and infantry, preventing them from advancing deep into the defenses. After the fulfillment of their mission the tanks and infantry detailed for ambush take up other positions and are assigned new combat missions. (⁶)

Tanks which are attached to a motorized rifle battalion are used by platoon and by crew for operations from ambush or they are attached to companies and platoons to reinforce the antitank defense. In strongpoints tanks operate as mobile or immobile weapons. One primary and one or two reserve positions and routes for

movement to them are prepared for every tank.

Tank ambushes in a motorized rifle battalion may consist of a crew or a platoon. An ambush is prepared on a tank-dangerous approach in a well-camouflaged position. The position is prepared in a gap between strongpoints, behind one, or on a flank of the battalion defensive area, as a rule, at a street intersection or square where several streets converge and in buildings located on a main artery. (³ p. 56)

The firing positions of tanks, guns, and armored personnel carriers are selected in corner buildings, in structures standing alone, and behind masonry fences. Door and window openings are used for firing and embrasures are made in walls. (³ p. 54)

To support a perimeter defense of a site, strongpoint, or the defensive area as a whole the system of fire is so organized that all streets, intersections, gaps between buildings, entrances to squares and also parks and public gardens, the approaches to bridges and overpasses, and the approaches to water obstacles are kept under flanking and interlocking multilayer fire and also concentrated fire of mortars and artillery located in covered firing positions. Particular attention is devoted to the organization of antitank fire since it will be possible to deliver fire at enemy tanks in the city itself only for a very limited time. (³ p. 54)

As a rule, counterattacks are supported by artillery and mortar fire as well as by the tanks operating directly in the subunits' battle formations. (⁶)

Extensive use is made of ambushes along routes of probable enemy forward movement to deliver fire at his tanks and armored personnel carriers. Even individual soldiers armed with antitank hand grenades and antitank grenade launchers can inflict significant losses on enemy tanks and armored personnel carriers moving along city streets which hamper maneuver. (³ p. 54)

Men in tank and motorized rifle ambushes do not open fire at the enemy before he approaches the ambushes. When the enemy gets close to them they destroy tanks and

infantry by opening fire suddenly, preventing the enemy from making further progress within the defensive position. After they have completed their mission the tanks and motorized rifleman designated for ambush occupy other positions and receive a new mission. (3 p. 74)

9. Soviet Guidelines for Signal Communications

The guidelines describe the difficulties of communicating by radio in the urban environment to include problems of interference and reduced ranges. Wire to include municipal systems is advocated as an alternative with the caution that it provides problems of security.

Conditions prevailing in a city complicate the control of podrazdeleniye in combat. Limitations on fields of observation, the shielding effects of structures on radio communication, and the difficulty of coordinating the activity of units in strongpoints when there is extensive destruction and rubble oblige commanders to seek the most reliable methods of effecting control and communication. It is advisable to make extensive use of signal systems and use municipal underground cable networks for wire communication and other means of communication existing in the city. However, in this case it is necessary to take measures to prevent the possibility of enemy intercept of conversations. (3 p. 55)

The radios in podrazdeleniye can best be located on the upper floors of buildings and other structures and extensive use should be made of remote control of radio equipment. If because of the prevailing situation they must be kept in the lower stories, then a VCh (high frequency) cable 10--15 m long is connected to an antenna which is deployed on the roof of a building. In an attack in a city the number of R-105 and R-114 radios must be increased for podrazdeleniye assigned to conduct reconnaissance and also to support communication for coordination between motorized rifle companies and tank podrazdeleniye.

The battalion commander effects control of artillery fire by personally assigning missions to the commanders of artillery podrazdeleniye. This can be achieved by collocating their command-observation posts.

Extensive use is made of mobile means of communications such as armored personnel carriers and tanks, foot messengers, and lights and other signals. (³ p. 38)

Under these conditions prevailing in a city the effective range of ultrashortwave radios is reduced since the buildings and other structures in the city shield and absorb the radio waves. To control podrazdeleniye in combat use will be made most frequently of portable radios since the opportunity to move armored personnel carriers with the radios mounted on them will be very limited in a city.

During combat in the city it will be necessary to use the bypass communication frequencies of attached and supporting podrazdeleniye, especially artillery. (³ p. 37)

Missions to seize and fortify important locations in the city, as a rule, are assigned by radio and from the spot where the battalion commander will control the podrazdeleniye in combat. (³ p. 61)

10. Soviet Guidelines for Reconnaissance Forces

The responsibility for continuous reconnaissance in Soviet tactical units is extremely general from the division to the small unit commander and individual soldier. The following guidelines reflect this broad spectrum. There are several types of reconnaissance identified as providing information about the enemy, the terrain and objective area to include combat patrols, reconnaissance groups, engineer, radiation, chemical, bacteriological and officer reconnaissance. Foot patrols are given priority in urban warfare; however observation and listening posts are included in this category. Reconnaissance forces are, as with other tactical units, task organized and may include infantry, artillery, engineer and chemical personnel. While cities

restrict long range visibility, the Soviet writers indicate that they also provide concealment for reconnaissance into enemy positions.

Reconnaissance is organized in timely fashion, beginning with receipt of the combat mission. Information about the nature of the city, the system of defense, enemy strength, system of fire, the existence of artificial and natural obstacles and underground structures and advantageous approaches to objectives under attack is obtained by studying information available at the next higher staff, reference books, aerial photographs, descriptions, large-scale maps and plans, observation, search, ambush, combat, combat reconnaissance patrols, reconnaissance groups, and engineer, radiation, chemical, and officer reconnaissance. (p. 33)

Reconnaissance by observation is, as a rule, conducted with an extremely limited view along the front and in the depth. Observers of the subunits are assigned not sectors, but individual objectives (a house or part of it, ruins, etc.). Observation points are selected with such calculation that the scout has visual communication with the commander of the subunit.

Posts are placed mainly in the combat formations of the subunit as well as in places securing a good view not only of the adjacent streets, but also roofs of houses and upper stories. With this, personnel must be well camouflaged and reliably covered. Such places might be high multistoried buildings, garrets, breaches in walls or roofs, stone fences into which holes are made beforehand, destroyed buildings, and camouflaged tanks.

It is necessary to arrange posts so that they are exposed as least as possible to danger from crumbling buildings and so that personnel are constantly defended from artillery and mortar fire. Therefore, it is not always advantageous to place scouts on factory chimneys, church towers, and water towers, since, being good landmarks, they will be destroyed in the first instance.

For the equipping of a post, one must not forget about the arrangement of an emergency exit and overhead cover and walls reinforced by bricks and sandbags. Windows and openings, which are not used by scouts, are stuffed by these same materials. For implementation of the mission, personnel are equipped with the periscope of

a scout, and binoculars and other instruments permitting observation from the interior of a building or from behind shelter. (¹³ p. 24)

Preparing for reconnaissance in a city, it is necessary beforehand to study the width and pattern of the streets and the location of squares, gardens and public gardens, residential, public, and industrial buildings, and underground communication structures. For this are used a large-scale map, a city plan, and aerial photographs. The basic methods of reconnaissance, as also under ordinary conditions, are: observation, raid, ambush, reconnaissance in force, officer reconnaissance, and the activity of BRD* and RG. (¹³ p. 24)

The defenders achieve the complete rout of the enemy by daring and surprise counterattacks at his flank and rear. The subunits advance unnoticed to the deployment lines, mainly by underground passages and communication trenches. Because of the limited field of sight in a town and the complication of the situation in the area of the enemy penetration, a reconnaissance and security elements are sent out in front of the subunits advancing for the counterattack. The counterattacking subunits' fighting for big buildings frequently assumes the nature of an assault. Therefore the second echelon subunits must be able to act as assault groups. (⁶)

At the beginning of the fighting for the city, the RGs operate in the combat formations of the assault detachments and groups. After the taking of the strongpoints (centers of resistance) on the outskirts of the city, they, using the breaks in the combat formations or poorly defended streets, gardens, and public gardens, penetrate into the depth of the enemy's defense and proceed in their own directions. Then the groups advance along the streets. If they are sufficiently wide that tanks move on both sides, and in the middle on narrow streets. (¹³ pp. 25-26)

In addition to information obtained by the senior commander's intelligence, each podrazdeleniye commander must take all steps for continuous and active collection

* BRD = combat reconnaissance patrol; RG = reconnaissance group

of supplemental and new information. Reconnaissance patrols and patrol vehicles can be sent out for this purpose. (⁸)

Most frequently combat reconnaissance patrols in a city move on foot. This permits them to use concealed routes to reach the enemy's rear, using underground structures, gaps in buildings and fences, etc. It is advisable to include artillerymen, sappers, and chemical specialists in reconnaissance patrols for the purpose of obtaining more complete information about the enemy and the nature of objectives deep within the enemy's defensive position. (⁸ p. 34)

Reconnaissance in force is conducted in a city more often than in other conditions since possibilities to procure information by other methods are far less. For participation in it, it is advisable to assign a motorized-rifle subunit consisting of a reinforced platoon to a company, and sometimes up to a battalion. They are reinforced by antitank grenades, tanks, and artillery guns for point-blank firing. In ordinary conditions, it is preceded by preparatory fire, but in a city it may not be. Sometimes, a quick dash of the subunit from its initial position leads to a complete surprise and a well-timed detection of the enemy's system of defense. (¹³ p. 25)

Great significance during the course of combat in the city is acquired by comprehensive support of combat action, especially the conduct of active, deep, and continuous reconnaissance. Reconnaissance must be conducted by commanders at all levels as well as by individual soldiers. Observation and reconnaissance by fire are organized continuously and combat reconnaissance patrols and patrol vehicles are sent out. This makes it possible for a commander to be ready to take appropriate action with any change in the situation. (⁸ p. 42)

It is advisable to apportion not less than three or four tanks (BTR) in the composition of a PG (BRD). Advancing in pairs, they provide fire for each other. (¹³ p. 25)

* BTR = armored carrier; PG = reconnaissance group; BRD = combat reconnaissance patrol

As a rule, information from reconnaissance in a battalion is obtained by observation, listening, ambushes, receipt of data from adjacent units and higher staffs, from interrogation of prisoners and refugees, questioning of local inhabitants, and study of seized documents and trophies. Furthermore, a search may be conducted in the battalion on decision of the next higher commander.

Reconnaissance is conducted with the start of an enemy attack by a combat reconnaissance patrol, patrol vehicles, and also reconnaissance by fire when a battalion has reverted to the defense while in direct contact with the enemy and with the start of occupation of the defensive position when not in contact with the enemy. (³ p. 67)

On a destroyed street, it is more advantageous to place scouts not in surviving buildings, but among the ruins. (¹³ p. 24)

Structures in a city limit reconnaissance by observation and equipment. At the same time the closed nature of the terrain in a city and the network of underground routes of communication create favorable conditions for dispatch of our reconnaissance deep within enemy combat formations. But enemy reconnaissance also will try to use covered approaches and underground routes of communication in a city for the purpose of penetrating to our rear. Therefore, the battalion commander must take account of and provide for security and observation over possible routes of penetration by enemy scouts and sabotage groups.

In reverting to the defense while in direct contact with the enemy a battalion commander begins to devote attention to the problems of reconnaissance while he is fortifying his lines. He assigns additional missions to reconnaissance and directs it along lines of defensive combat. In all cases podrazdeleniye commanders are told: reconnaissance missions prior to the beginning of the enemy attack and when he reverts to the attack, forces for the conduct of reconnaissance, the beginning of reconnaissance action, and periods and procedures for submitting reports. (³ p. 67)

In defense of a city combat reconnaissance patrols on armored personnel carriers may be sent out to reconnoiter the enemy and locations on the approaches to the city. Directly in a city it is best to conduct reconnaissance on foot using groups smaller in size than under ordinary field conditions. A foot patrol under conditions prevailing in a city is able to penetrate everywhere. By using surface and underground routes of communication it usually suffers fewer losses and is able to reconnoiter any objective, route, or sector of the city. (¹ pp. 67-68)

Radiation and chemical reconnaissance in a battalion is conducted by observation organized, as a rule, at the commander-observation post of the battalion, combat reconnaissance patrols which include attached chemical troops, and chemical reconnaissance patrols. (¹ p. 68)

Many measures are taken to organize protection against weapons of mass destruction. A dependable system for warning the garrisons in strongpoints employing all means of communication is established, and continuous radiation, chemical, and bacteriological reconnaissance is conducted within the city. Provisions are made for more complete use for protection of personnel of strong underground structures and basements and in case of need they are reinforced. Particular attention is devoted to protection for sources of water and safeguarding them against bacteriological contamination as well as strict observance in strongpoints and in a battalion defensive area as a whole of rules governing sanitation and hygiene. Measures are taken to eliminate the consequences of employment by the enemy of weapons of mass destruction and measures are prescribed for putting out fires and carrying out emergency rescue work. Personnel are categorically forbidden from using food, alcoholic beverages, and other things seized from the enemy or left by him and also water from any source without a preliminary test by medical workers. Particular attention is devoted to checking the quality of food and water before consuming them. (¹ p. 68)

It is most advisable to arrange ambushes on the outskirts of the city, at street crossings and the exits of buildings, and sometimes in the buildings, themselves, mainly on the first floor. It is also advantageous to organize

them at water fountains, at exits from underground city communications, on the ammunition and food supply routes of the enemy and the advancement routes of his observers and listening group for implementing missions at night. When an ambush is arranged on the outskirts of the city or at the street crossings, personnel assigned to the attack should be posted outside of the buildings (structures), and the scouts and combat vehicles for protecting the attackers may be left in buildings or behind various types of cover.

The experience of the Great Patriotic War indicates that most successful in ambush acted reconnaissance groups of force not larger than a section (otdeleniya), which set up ambushes in the depth of the enemy's combat formation and where his vigilance, as a rule, is low. (13 p. 25)

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FOOTNOTES

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